



MMWR

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Weekly

June 13, 2008 / Vol. 57 / No. 23

Breastfeeding-Related Maternity Practices at Hospitals and Birth Centers — United States, 2007

Breastfeeding provides optimal nutrition for infants and is associated with decreased risk for infant and maternal morbidity and mortality (1); however, only four states (Alaska, Montana, Oregon, and Washington) have met all five (2) *Healthy People 2010* targets for breastfeeding (3).^{*} Maternity practices in hospitals and birth centers throughout the intrapartum period, such as ensuring mother-newborn skin-to-skin contact, keeping mother and newborn together, and not giving supplemental feedings to breastfed newborns unless medically indicated, can influence breastfeeding behaviors during a period critical to successful establishment of lactation (4–9). In 2007, to characterize maternity practices related to breastfeeding, CDC conducted the first national Maternity Practices in Infant Nutrition and Care (mPINC) Survey. This report summarizes results of that survey, which indicated that 1) a substantial proportion of facilities used maternity practices that are not evidence-based and are known to interfere with breastfeeding and 2) states in the southern United States generally had lower mPINC scores, including certain states previously determined to have the lowest 6-month breastfeeding rates.[†] These results highlight the need for U.S. hospitals and birth centers to implement changes in maternity practices that support breastfeeding.

In 2007, in collaboration with Battelle Centers for Public Health Research and Evaluation, CDC conducted the mPINC survey to characterize intrapartum practices in hospitals and

birth centers in all states, the District of Columbia, and three U.S. territories. The survey was mailed to 3,143 hospitals and 138 birth centers with registered maternity beds, with the request that the survey be completed by the person most knowledgeable of the facility's infant feeding and maternity practices.

Questions regarding maternity practices were grouped into seven categories that served as subscales in the analyses: 1) labor and delivery, 2) breastfeeding assistance, 3) mother-newborn contact, 4) newborn feeding practices, 5) breastfeeding support after discharge, 6) nurse/birth attendant breastfeeding training and education, and 7) structural and organizational factors related to breastfeeding.[§] The subscales were derived

[§] *Labor and delivery* = mother-newborn skin-to-skin contact and early breastfeeding initiation. *Breastfeeding assistance* = assessment, recording, and instruction provided on infant feeding; not giving pacifiers to breastfed newborns. *Mother-newborn contact* = avoidance of separation during postpartum facility stay. *Newborn feeding practices* = what and how breastfed infants are fed during facility stay. *Breastfeeding support after discharge* = types of support provided after mothers and babies are discharged. *Nurse/birth attendant breastfeeding training and education* = quantity of training and education that nurses and birth attendants receive. *Structural and organizational factors related to breastfeeding* = 1) facility breastfeeding policies and how they are communicated to staff, 2) support for breastfeeding employees, 3) facility not receiving free infant formula, 4) prenatal breastfeeding education, and 5) coordination of lactation care.

INSIDE

- 625 *Escherichia coli* O157:H7 Infections in Children Associated with Raw Milk and Raw Colostrum From Cows — California, 2006
- 628 Cutaneous Anthrax Associated with Drum Making Using Goat Hides from West Africa — Connecticut, 2007
- 631 Electronic Record Linkage to Identify Deaths Among Persons with AIDS — District of Columbia, 2000–2005
- 634 Notice to Readers
- 635 QuickStats

^{*} Breastfeeding objectives are increases in the proportions of mothers who breastfeed their babies to meet the following targets: 75% in the early postpartum period (16-19a), 50% at 6 months (16-19b), 25% at 1 year (16-19c), 40% who exclusively breastfeed for 3 months (16-19d), and 17% who exclusively breastfeed for 6 months (16-19e). Objectives 16-19d and 16-19e were revised since the midcourse review. Additional information is available at http://ftp.cdc.gov/pub/health_statistics/nchs/datasets/data2010/focusarea16/o1619d.pdf and http://ftp.cdc.gov/pub/health_statistics/nchs/datasets/data2010/focusarea16/o1619e.pdf.

[†] Available at http://www.cdc.gov/breastfeeding/data/nis_data/data_2004.htm.

The *MMWR* series of publications is published by the Coordinating Center for Health Information and Service, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

Suggested Citation: Centers for Disease Control and Prevention. [Article title]. *MMWR* 2008;57:[inclusive page numbers].

Centers for Disease Control and Prevention

Julie L. Gerberding, MD, MPH
Director

Tanja Popovic, MD, PhD
Chief Science Officer

James W. Stephens, PhD
Associate Director for Science

Steven L. Solomon, MD
Director, Coordinating Center for Health Information and Service

Jay M. Bernhardt, PhD, MPH
Director, National Center for Health Marketing

Katherine L. Daniel, PhD
Deputy Director, National Center for Health Marketing

Editorial and Production Staff

Frederic E. Shaw, MD, JD
Editor, MMWR Series

Teresa F. Rutledge
(Acting) Managing Editor, MMWR Series

Douglas W. Weatherwax
Lead Technical Writer-Editor

Donald G. Meadows, MA
Jude C. Rutledge
Writers-Editors

Peter M. Jenkins
(Acting) Lead Visual Information Specialist

Lynda G. Cupell
Malbea A. LaPete
Visual Information Specialists

Quang M. Doan, MBA
Erica R. Shaver
Information Technology Specialists

Editorial Board

William L. Roper, MD, MPH, Chapel Hill, NC, *Chairman*

Virginia A. Caine, MD, Indianapolis, IN

David W. Fleming, MD, Seattle, WA

William E. Halperin, MD, DrPH, MPH, Newark, NJ

Margaret A. Hamburg, MD, Washington, DC

King K. Holmes, MD, PhD, Seattle, WA

Deborah Holtzman, PhD, Atlanta, GA

John K. Iglehart, Bethesda, MD

Dennis G. Maki, MD, Madison, WI

Sue Mallonee, MPH, Oklahoma City, OK

Stanley A. Plotkin, MD, Doylestown, PA

Patricia Quinlisk, MD, MPH, Des Moines, IA

Patrick L. Remington, MD, MPH, Madison, WI

Barbara K. Rimer, DrPH, Chapel Hill, NC

John V. Rullan, MD, MPH, San Juan, PR

Anne Schuchat, MD, Atlanta, GA

Dixie E. Snider, MD, MPH, Atlanta, GA

John W. Ward, MD, Atlanta, GA

from literature reviews and consultation with breastfeeding experts. Researchers assigned scores to facility responses on a 0–100 scale, with 100 representing a practice most favorable toward breastfeeding.[†] Mean scores were calculated for each subscale, generally excluding questions that were unanswered or answered “not sure” or “not applicable.” Mean subscale and mean total scores for each state were calculated as an average of scores from all facilities in the state; mean total scores were rounded to the nearest whole number. U.S. scores were calculated as the mean scores for all participating facilities. A subscale score was not calculated if more than half the response data were missing, and mean total scores were not calculated if more than half the subscale scores were missing.

Responses were received from 2,690 (82%) facilities; however, data from three respondent facilities in Guam and the U.S. Virgin Islands were excluded from this analysis because of disclosure concerns, resulting in a sample size of 2,687 facilities (2,546 hospitals and 121 birth centers) in the 50 states, the District of Columbia, and Puerto Rico.** The response rate among birth centers (88%) was higher than among hospitals (82%).

Among states, mean total scores ranged from 48 in Arkansas to 81 in New Hampshire and Vermont (Table 1), and regional variation was evident (Figure). Mean total scores generally were higher in the western and northeastern regions of the United States and lower in the southern region. Mean total scores among facilities did not differ by annual number of births, but were higher among birth centers (86 out of 100), compared with hospitals (62) (Table 2).

Among the seven subscales, the highest mean score (80) was for breastfeeding assistance (i.e., assessment, recording, and instruction provided on infant feeding). Within this subscale, 99% of facilities had documented the feeding decisions of the majority of mothers in facility records, and 88% of facilities had taught the majority of mothers techniques related to breastfeeding. However, 65% of facilities advised women to limit the duration of suckling at each breastfeeding, and 45% reported giving pacifiers to more than half of all healthy, full-term breastfed infants, practices that are not supportive of breastfeeding (7).

The lowest score (40) was for breastfeeding support after discharge. For this subscale, 70% of facilities reported providing discharge packs containing infant formula samples to breastfeeding mothers, a practice not supportive of breastfeeding (8). Although 95% of facilities reported provid-

[†] Additional information regarding survey questions and scoring is available at <http://www.cdc.gov/mpinc>.

** In describing the results of this study, the District of Columbia and Puerto Rico are referred to as states.

TABLE 1. Mean total and subscale maternity practice scores, by state — Maternity Practices in Infant Nutrition and Care Survey, United States, 2007

State†	No. of respondent facilities‡	%	Mean total score¶	Standard error of the mean total score	Mean subscale scores*						
					Labor and delivery	Breast- feeding assistance	Mother- newborn contact	Newborn feeding practices	Breast- feeding support after discharge	Nurse/birth attendant breastfeeding training and education	Structural and organiza- tional factors related to breastfeeding
United States	2,687	82	63	0.3	60	80	70	77	40	51	66
Alabama	47	87	55	1.9	45	71	55	69	27	53	63
Alaska	24	100	73	3.1	79	81	90	86	69	34	60
Arizona	36	71	62	1.9	58	80	75	76	34	52	62
Arkansas	27	60	48	2.3	43	67	57	62	24	29	53
California	201	80	69	1.1	63	82	77	77	49	61	70
Colorado	42	86	66	1.9	65	80	77	84	33	53	70
Connecticut	23	77	70	2.1	73	84	72	92	31	66	74
Delaware	7	100	63	7.0	47	81	77	86	34	39	72
District of Columbia	4	57	76	8.5	89	90	73	80	53	71	80
Florida	95	75	68	1.5	64	84	76	79	44	56	70
Georgia	70	81	56	1.3	48	75	64	71	25	50	63
Hawaii	9	75	62	1.4	79	76	83	80	14	38	60
Idaho	26	81	65	3.0	68	83	80	78	35	46	69
Illinois	109	59	60	1.2	48	78	64	74	35	54	67
Indiana	84	88	62	1.4	60	81	69	77	31	49	66
Iowa	74	91	61	1.2	50	78	66	76	44	44	64
Kansas	68	90	59	1.6	57	74	75	78	35	38	54
Kentucky	43	78	57	1.9	52	76	59	69	28	53	63
Louisiana	45	82	54	2.0	44	75	51	59	33	54	61
Maine	30	91	77	2.3	78	89	79	85	69	66	78
Maryland	29	81	61	2.3	55	79	69	77	26	48	69
Massachusetts	36	77	75	1.5	72	86	72	87	61	72	79
Michigan	76	79	64	1.6	63	81	74	79	33	47	68
Minnesota	85	84	65	1.4	62	82	71	76	54	41	65
Mississippi	38	84	50	2.1	42	69	48	63	28	43	55
Missouri	58	81	63	1.4	61	79	70	79	32	55	66
Montana	30	88	63	3.0	65	77	74	75	41	46	59
Nebraska	48	80	57	1.9	60	74	74	73	32	30	53
Nevada	13	65	57	4.4	52	75	69	74	29	42	59
New Hampshire	23	92	81	1.7	82	90	85	89	72	63	83
New Jersey	46	77	60	1.5	47	82	57	72	25	62	72
New Mexico	20	67	64	3.9	54	81	76	76	48	49	60
New York	110	75	67	1.1	61	84	66	77	48	57	76
North Carolina	71	84	61	1.4	54	81	66	76	31	53	68
North Dakota	17	94	59	3.2	59	80	64	72	31	47	62
Ohio	103	89	67	1.1	59	83	68	80	48	55	75
Oklahoma	49	82	57	1.7	57	74	70	71	21	47	58
Oregon	53	95	74	1.9	76	86	85	88	57	49	71
Pennsylvania	101	87	61	1.3	54	80	62	78	37	50	68
Rhode Island	5	71	77	7.1	64	93	72	86	75	68	85
South Carolina	37	86	57	2.7	47	74	55	66	41	48	62
South Dakota	19	83	61	2.5	56	79	68	78	36	45	67
Tennessee	64	88	57	1.7	53	74	61	73	26	47	62
Texas	190	75	58	1.2	52	73	64	69	35	52	59
Utah	31	79	61	1.8	67	77	66	79	26	48	64
Vermont	11	92	81	2.3	89	95	81	92	72	63	74
Virginia	49	82	61	2.0	53	78	61	79	32	58	67
Washington	65	88	72	1.5	77	86	89	85	53	43	64
West Virginia	27	84	55	2.5	53	76	58	71	25	44	58
Wisconsin	93	90	69	1.3	66	85	71	82	51	51	74
Wyoming	15	83	68	2.7	78	80	76	83	46	48	62
Puerto Rico	11	36	55	3.2	41	74	61	48	42	58	53

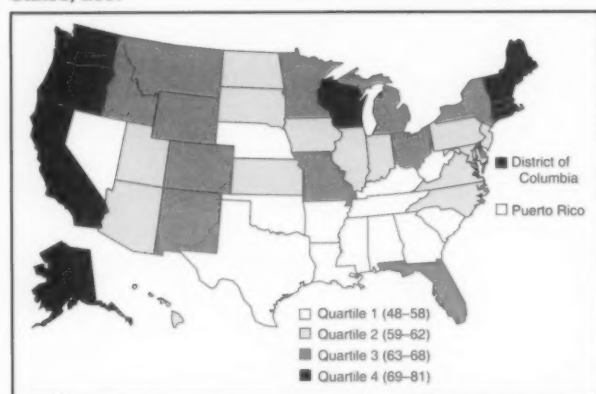
* Maximum possible mean score is 100. Subscale definitions: *Labor and delivery* = mother-newborn skin-to-skin contact and early breastfeeding initiation. *Breastfeeding assistance* = assessment, recording, and instruction provided on infant feeding; not giving pacifiers to breastfed newborns. *Mother-newborn contact* = avoidance of separation during postpartum facility stay. *Newborn feeding practices* = what and how breastfed infants are fed during facility stay. *Breastfeeding support after discharge* = types of support provided after mothers and babies are discharged. *Nurse/birth attendant breastfeeding training and education* = quantity of training and education that nurses and birth attendants receive. *Structural and organizational factors related to breastfeeding* = 1) facility breastfeeding policies and how they are communicated to staff, 2) support for breastfeeding employees, 3) facility not receiving free infant formula, 4) prenatal breastfeeding education, and 5) coordination of lactation care. Additional information regarding survey questions and scoring is available at <http://www.cdc.gov/mpinc>.

† In describing the results of this study, the District of Columbia and Puerto Rico are referred to as states.

‡ Hospitals and birth centers.

¶ The rounded mean of the subscale scores.

FIGURE. Mean total maternity practice scores,* by quartile — Maternity Practices in Infant Nutrition and Care Survey, United States, 2007



* Maximum possible mean score is 100. Additional information regarding survey questions and scoring is available at <http://www.cdc.gov/mpinc>.

ing a telephone number for mothers to call for breastfeeding consultation after leaving the birth facility, 56% of facilities reported initiating follow-up calls to mothers. Facility-based postpartum follow-up visits were offered by 42% of facilities, and postpartum home visits were reported by 22% of facilities.

For newborn feeding, 24% of facilities reported giving supplements (and not breast milk exclusively) as a general practice with more than half of all healthy, full-term breastfeeding newborns, a practice that is not supportive of breastfeeding (7,10). When asked whether healthy, full-term breastfed infants who receive supplements are given glucose water or water, 30% of facilities reported giving feedings of glucose water and 15% reported giving water, practices that are not supportive of breastfeeding. In addition, 17% of facilities reported they gave something other than breast milk as a first feeding to more than half the healthy, full-term, breastfeeding newborns born in uncomplicated cesarean births.

Reported by: AM DiGirolamo, PhD, Rollins School of Public Health, Emory Univ, Atlanta, Georgia. DL Manninen, PhD, JH Cohen, PhD, Battelle Centers for Public Health Research and Evaluation, Seattle, Washington. KR Shealy, MPH, PE Murphy, MLIS, CA MacGowan, MPH, AJ Sharma, PhD, KS Scanlon, PhD, LM Grummer-Strawn, PhD, Div of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion; DL Dee, PhD, EIS Officer, CDC.

Editorial Note: This report summarizes results from 2,687 hospitals and birth centers in the first survey of breastfeeding-related maternity practices conducted in the United States. These results provide information regarding maternity practices and policies in birthing facilities and can serve as a baseline with which to compare future survey findings. Individual facilities and states can use this information to improve

TABLE 2. Mean total maternity practice scores,* by annual number of births and facility type — Maternity Practices in Infant Nutrition and Care Survey, United States, 2007

Characteristic	No. of facilities	Mean total score	Standard error
Annual number of births			
0–249	626	63	0.7
250–499	448	60	0.7
500–999	548	62	0.6
1,000–1,999	553	64	0.6
2,000–4,999	440	66	0.6
≥5,000	71	63	1.5
Facility type			
Birth center	121†	86	0.9
Hospital	2,546†	62	0.3

* Maximum possible mean score is 100. Additional information regarding survey questions and scoring is available at <http://www.cdc.gov/mpinc>.

† One birth center and 22 hospitals had missing data that prevented calculation of at least four subscales; therefore, a mean total score could not be calculated.

maternity practices known to influence breastfeeding in the early postpartum period and after discharge.

The findings indicate substantial prevalences of maternity practices that are not evidence-based and are known to interfere with breastfeeding. For example, 24% of birth facilities reported supplementing more than half of healthy, full-term, breastfed newborns with something other than breast milk during the postpartum stay, a practice shown to be unnecessary and detrimental to breastfeeding (7,10). In addition, 70% of facilities reported giving breastfeeding mothers gift bags containing infant formula samples. Facilities should consider discontinuing these practices to provide more positive influences on both breastfeeding initiation and duration (5,6,8).

The findings demonstrate that birth centers had higher mean total scores, compared with hospitals. Facility size (based on annual number of births) was not related to differences in scores. Further research is needed to better understand the difference in scores for birth centers and hospitals. Previous research has indicated that the more breastfeeding-supportive maternity practices that are in place, the stronger the positive effect on breastfeeding (5,6,9). Comparison of the findings of this report with state breastfeeding rates also suggests a correlation between maternity practice scores and prevalence of breastfeeding. For example, in the 2006 National Immunization Survey, seven states (Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, and West Virginia) had the lowest percentages (<30%) of children breastfed for 6 months. The same seven states were among those with the lowest mean total maternity practice scores (48–58) in mPINc.

The findings in this report are subject to at least one limitation. Data were reported by one person at each facility and might not be representative of actual maternity practices in use. However, CDC sought to prevent inaccuracies by request-

ing that the survey be completed by the person most knowledgeable about the facility's maternity practices, in consultation with other knowledgeable persons when necessary. The survey was pretested with key informants in nine facilities across the country, with follow-up visits to each facility to validate responses. Information from the key informants generally was found to be accurate. Further validation through patient interviews or medical chart reviews has not been conducted.

In July 2008, mPINC benchmark reports will be provided to each facility that completed a survey, comparing the facility's subscale and total scores with the scores of all other participating facilities, other facilities in the state, and facilities of a similar size nationally. These reports also will provide the facility score for each item comprising the subscales, which can help facilities identify specific maternity practices that might be changed to better support breastfeeding. Aggregate data will be shared with state health departments to facilitate their work with birth facilities to improve breastfeeding care. CDC plans to repeat the mPINC survey periodically to assess changes over time.

The American Academy of Family Physicians,^{††} American Academy of Pediatrics,^{§§} and Academy of Breastfeeding Medicine^{¶¶} all recommend that physicians provide intrapartum care that is supportive of breastfeeding. Hospitals and birth centers provide care to nearly all women giving birth in the United States. Thus, improving maternity practices in these facilities affords an opportunity to support establishment and continuation of breastfeeding. Establishing these practices as standards of care in birth facilities throughout the United States can improve progress toward meeting the *Healthy People 2010* breastfeeding objectives and improve maternal and child health nationwide.

Acknowledgments

This report is based, in part, on contributions by E Adams, PhD, Oregon Health & Science Univ, Portland, Oregon; K Rosenberg, MD, Oregon Dept of Human Svcs; A Grinblat, MD, State Univ of New York at Buffalo; CL Quinn, MD, Albert Einstein College of Medicine, Bronx, New York; M Applegate, MD, New York State Dept of Health; K Cadwell, PhD, C Turner-Maffei, MA, Baby-Friendly USA, East Sandwich, Massachusetts; A Crivelli-Kovach, PhD, Arcadia Univ; E Declercq, PhD, Boston Univ School of Public Health; A Merewood, MPH, B Philipp, MD, Boston Medical Center, Massachusetts; J Dellaport, RD, L Tiffin, MS, California Dept of Health Svcs; MK Dugan, MA, E Miles, MPH, Battelle

Centers for Public Health Research and Evaluation, Seattle, Washington; M Pessl, Evergreen Perinatal Education, Bellevue, Washington; L Feldman-Winter, MD, Univ of Medicine and Dentistry of New Jersey, Newark, New Jersey; and A Spangler, MN, Amy's Babies, Atlanta, Georgia.

References

1. Ip S, Chung M, Raman G, et al. Breastfeeding and maternal and infant health outcomes in developed countries. Rockville, MD: US Department of Health and Human Services, Agency for Healthcare Research and Quality; 2007. Available at <http://www.ahrq.gov/downloads/pub/evidence/pdf/brfout/brfout.pdf>.
2. CDC. Breastfeeding trends and updated national health objectives for exclusive breastfeeding—United States, birth years 2000–2004. MMWR 2007;56:760–3.
3. US Department of Health and Human Services. Healthy people 2010 midcourse review. Washington, DC: US Department of Health and Human Services; 2005. Available at <http://www.healthypeople.gov/data/midcourse>.
4. United Nations Childrens Fund/World Health Organization. Promoting, protecting, and supporting breastfeeding: the special role of maternity services. Geneva, Switzerland: United Nations Childrens Fund/World Health Organization; 1989.
5. DiGirolamo AM, Grummer-Strawn LM, Fein S. Maternity care practices: implications for breastfeeding. Birth 2001;28:94–100.
6. Murray EK, Ricketts S, Dellaport J. Hospital practices that increase breastfeeding duration: results from a population-based study. Birth 2007;34:202–11.
7. Dewey KG, Nommsen-Rivers LA, Heinig MJ, Cohen RJ. Risk factors for suboptimal infant feeding behavior, delayed onset of lactation, and excess neonatal weight loss. Pediatrics 2003;112:607–19.
8. Rosenberg KD, Eastham CA, Kasehagen LJ, Sandoval AP. Marketing infant formula through hospitals: the impact of commercial hospital discharge packs on breastfeeding. Am J Public Health 2008;98:290–5.
9. Chien LY, Tai CJ, Chu KH, Ko YL, Chiu YC. The number of baby friendly hospital practices experienced by mothers is positively associated with breastfeeding: a questionnaire survey. Int J Nurs Stud 2007;44:1138–46.
10. Swenne I, Ewald U, Gustafsson J, Sandberg E, Ostenson CG. Interrelationship between serum concentrations of glucose, glucagon, and insulin during the first two days of life in healthy newborns. Acta Paediatr 1994;83:915–9.

***Escherichia coli* O157:H7 Infections in Children Associated with Raw Milk and Raw Colostrum From Cows — California, 2006**

On September 18, 2006, the California Department of Public Health (CDPH) was notified of two children hospitalized with hemolytic uremic syndrome (HUS). One of the patients had culture-confirmed *Escherichia coli* O157:H7 infection, and both patients had consumed raw (unpasteurized) cow milk in the week before illness onset. Four additional cases of *E. coli* O157:H7 infection in children who had consumed raw cow milk or raw cow colostrum produced by the same dairy were identified during the following 3 weeks.

^{††} Available at <http://www.aafp.org/online/en/home/policy/policies/h/hospuseinfantformulabreastfeeding.html>.

^{§§} Available at <http://aappolicy.aapublications.org/cgi/reprint/pediatrics;115/2/496.pdf>.

^{¶¶} Available at http://www.bfmed.org/ace-files/protocol/mhpolicy_abm.pdf.

In California, intrastate sale of raw milk and raw colostrum is legal and regulated. This report summarizes the investigation of these cases by CDPH, the California Department of Food and Agriculture (CDFA), and four local health departments and subsequent actions to prevent illnesses. As a result of this and other outbreaks, California enacted legislation (AB 1735), which took effect January 1, 2008, setting a limit of 10 coliforms/mL for raw milk sold to consumers. Raw milk in several forms, including colostrum, remains a vehicle of serious enteric infections, even if the sale of raw milk is regulated.

In mid-September 2006, the parent of one of the two children hospitalized with HUS notified CDFA that both children had consumed raw skim milk from dairy A in the days before illness onset. CDFA notified CDPH and the local health departments of the reports. Dairy A, a licensed raw milk dairy, sells raw milk, raw cream, raw butter, raw cheese, raw colostrum,* and kefir throughout California at retail stores and nationwide via Internet sales, all under a single brand (brand A).

On September 21, 2006, based on the reports from CDPH, CDFA issued a recall and quarantine order for all raw milk, raw cream, and raw colostrum produced by dairy A. The order was extended on September 22 to include all raw products from dairy A, except for cheeses aged at least 60 days according to California and Food and Drug Administration (FDA) standards.† Dairy A also was placed under a separate restriction by CDFA during September 21–29 that prevented it from bottling fluid milk and cream because of persistent high standard plate counts.

For this investigation, a case was defined as illness with an onset date of August 1, 2006, or later in a California resident with 1) culture-confirmed *E. coli* O157:H7 infection with the outbreak strain or 2) HUS with or without culture confirmation, and exposure to raw milk. Case finding was conducted by notifying all California local health departments and infection-control practitioners and reviewing molecular subtyping results from the CDPH Microbial Diseases Laboratory. The 61 health jurisdictions in California were notified on September 20, 2006, to be alert for cases of *E. coli* O157:H7 and other Shiga toxin-producing *E. coli* associated with consumption of raw milk. They were asked to report immediately to CDPH any enteric illnesses associated with raw milk or colostrum consumption.

Six cases were identified; four persons had culture-confirmed infections, one had a culture-confirmed infection and HUS, and one had HUS only. The median age of patients was 8 years (range: 6–18 years), and four of the patients (67%) were boys. The six cases identified during this investigation were geographically dispersed throughout California. All six patients reported bloody diarrhea; three (50%) were hospitalized. Illness onset occurred during September 6–24, 2006. Isolates from the five patients with culture-confirmed infections had indistinguishable pulsed-field gel electrophoresis (PFGE) patterns. The PFGE pattern was new to the PulseNet (the National Molecular Subtyping Network for Foodborne Disease) database and differed markedly from the pattern of the *E. coli* O157:H7 strain associated with a concurrent multistate outbreak linked to spinach consumption (1). Four of the five *E. coli* O157:H7 isolates were subtyped by multiple-locus variable-number tandem repeat analysis (MLVA) according to a protocol used by CDPH laboratory and were found to have closely related MLVA patterns (2).

Five of six patients reported they had consumed brand A raw dairy products in the week before their illness onset; the sixth patient denied drinking brand A raw milk, although his family routinely purchased it. Among the five patients who consumed brand A dairy products, two consumed raw whole milk, two consumed raw skim milk, and one consumed raw chocolate-flavored colostrum. Four of the five patients routinely drank raw milk from dairy A. One patient was exposed to brand A dairy product only once; he was served raw chocolate colostrum as a snack when visiting a friend. No other food item was commonly consumed by all six patients. No other illness was reported among household members who consumed brand A dairy products.

To assess the level of exposure to raw dairy products among patients with *E. coli* O157:H7 infection, CDPH epidemiologists reviewed exposure histories for the 50 most recent *E. coli* O157:H7 cases reported to CDPH during 2004–2006. Among patients who had been asked about exposure to raw milk on the case report, only one of 47 (2%) had consumed raw milk in the week before illness onset. Exposure to raw milk was similarly low (3%) among Californians who responded to a population survey (3).

Environmental Investigation

Using purchase information supplied by the patients' families, investigators determined that the patients consumed raw milk from lots produced at dairy A during September 3–13, 2006. Milk samples from these production dates were not available for testing. Fifty-six product samples from several lots with code dates of September 17, 2006, or later were retrieved from retail stores and dairy A and were tested for

* Raw colostrum is secreted during the first few days after giving birth. It contains higher amounts of protein and antibodies than regular raw milk, but is processed in the same way as raw milk.

† The 60-day curing process has historically been considered sufficient to eliminate or reduce pathogens that were in the milk; however, its efficacy has been questioned, and FDA is reviewing the safety of raw milk cheeses.

TABLE. Microbial testing results for dairy A raw milk product samples with code dates of September 17 through October 9, 2006—California

Product sample	Standard plate counts			Coliform counts		
	>15,000 CFU/mL	>250,000 CFU/mL	Range (CFU/mL)	>10 coliforms/mL	>1,500 coliforms/mL	Range (coliforms/mL)
	(n)	(n)		(n)	(n)	
Raw skim milk (n = 13)	11	11	2,900 to >10,000,000	12	9	75 to >10,000
Raw whole milk (n = 18)	13	11	1,800 to >9,000,000	15	4	0 to >10,000
Raw colostrum (n = 4)	4	4	2,000,000 to >8,000,000	4	2	110 to >10,000
Raw chocolate colostrum (n = 3)	3	3	263,000 to 1,200,000	3	2	98 to >20,000
Raw cream (n = 11)	9	7	1,800 to 12,000,000	10	6	39 to 6,200
Raw kefir (n = 3)	3	3	320,000 to 9,000,000	3	0	12 to 270
Raw butter (n = 4)	3	2	110,000 to >4,000,000	4	3	110 to >3,300

aerobic microflora, total coliform, fecal coliform, and *E. coli* O157:H7. The outbreak strain of *E. coli* O157:H7 was not found in any product samples. However, standard aerobic plate counts and coliform counts of collected samples with code dates of September 17 through October 9, 2006, were indicative of contamination (Table). Colostrum samples had high standard plate counts and total coliform counts, and fecal coliform counts of 210–46,000 MPN/g. California standards limit standard plate counts for raw and pasteurized milk to 15,000 CFU/mL and total coliform counts for pasteurized milk to 10 coliform bacteria/mL. At the time of this outbreak, California did not have a coliform standard for milk sold raw to consumers. California also classifies colostrum as a dietary supplement, for which it has no microbiologic standards, rather than a milk product.

CDEA and CDPH conducted an initial inspection and environmental investigation of the milk plant and dairy on September 26. *E. coli* O157:H7 was not isolated from any of four environmental samples. Samples from three heifers yielded *E. coli* O157:H7, but the PFGE and MLVA patterns of these *E. coli* O157:H7 isolates differed from the outbreak pattern.

Reported by: J Schneider, MPH, J Mohle-Boetani, MD, D Vugia, MD, California Dept of Public Health. M Menon, MD, EIS officer, CDC.

Editorial Note: Raw cow milk and raw milk products have been implicated in the transmission of multiple bacterial pathogens, including *Campylobacter* spp., *Brucella*, *Listeria monocytogenes*, *Salmonella* spp., and *E. coli*. In a recent review of *E. coli* O157 infections, raw milk products accounted for 4% of outbreaks during a 20-year period (4). *E. coli* O157:H7 is responsible for an estimated 73,000 cases of illness annually, and serious sequelae, including HUS and death (5). Children, older adults, and persons with low levels of gastric acid are particularly vulnerable (6).

Raw milk products tested from dairy A were not produced during the same time as the products consumed by the patients in this outbreak. Although the outbreak strain of *E. coli* O157 was not isolated from dairy A products, the tested products did have high standard plate counts, many exceed-

ing California standards for raw milk, and total coliform counts that exceeded California standards for pasteurized milk. Nonoutbreak strains of *E. coli* O157 also were isolated from samples from dairy A cows, indicating shedding of this pathogen in the herd. Raw milk from dairy A was the likely vehicle of transmission, but the exact mode of milk contamination in this outbreak was not determined. Asymptomatic cows can harbor pathogens and cause human illness by shedding pathogens in untreated milk or milk products. These findings suggest that if raw milk had been subject to the same coliform standard as pasteurized milk in California, milk from dairy A might have been excluded from sale and this outbreak might have been averted.

FDA mandates that all milk and milk products for direct human consumption be pasteurized in final package form if they are to be shipped for interstate sale (7). States regulate milk shipped within their state. Currently, 21 states require pasteurization of all milk products for sale. However, 25 states, including California, allow raw milk to be sold in some form to the public. Those states that permit the sale and consumption of raw milk report more outbreaks of foodborne disease attributed to raw milk than those states that have stricter regulations. During 1973–1992, raw milk was implicated in 46 reported outbreaks. Nearly 90% of these outbreaks (40 out of 46) occurred in states that allow the sale of raw milk, suggesting that even the regulated sale of raw milk might not be adequate to prevent associated illnesses (8).

This is the first outbreak reported to CDC in which colostrum has been an implicated food vehicle. This outbreak represents the first time colostrum has been reported to CDC as a form of raw milk consumed by any patients in raw milk-associated outbreak, although information on the type of raw milk is reported inconsistently in outbreak surveillance. Colostrum is purported to have increased concentrations of nutrients and protective antibodies and is marketed as a dietary supplement in California; consequently, it is regulated by the CDPH Food and Drug Branch. The colostrum products tested in this investigation were nearly as contaminated

as other forms of raw milk tested; therefore, in this outbreak, the risk for human illness from consuming either product was probably similar. Exemption of colostrum from state dairy regulations is not supported by the findings in this outbreak investigation.

From 1998 to May 2005, raw milk or raw milk products have been implicated in 45 foodborne illness outbreaks in the United States, accounting for more than 1,000 cases of illness (CDC, unpublished data, 2007). Because illnesses associated with raw milk continue to occur, additional efforts are needed to educate consumers and dairy farmers about illnesses associated with raw milk and raw colostrum. To reduce the risk for *E. coli* O157 and other infections, consumers should not drink raw milk or raw milk products.

Acknowledgments

This report is based, in part, on data contributed by D Buglino, MPH, K Smith-Sayer, Nevada County Public Health Dept; S Fortino, Riverside County Dept of Public Health; J Van Meter, MPH, County of San Diego Health and Human Svcs Administration; E Frykman, MD, San Bernardino County Dept of Public Health; L Crawford-Miksza, PhD, C Myers, S Himathongkham, DVM, M Palumbo, PhD, J Atwell, T Chang, D Csuti, S Fontanoz, Y Gerbremael, J Glover, DVM, J O'Connell, B Sun, DVM, C Wheeler, MD, Y Zhao, California Dept of Public Health; California Dept of Food and Agriculture; and M Lynch, MD, Div of Foodborne, Bacterial, and Mycotic Diseases, CDC.

References

1. CDC. Ongoing multistate outbreak of *Escherichia coli* serotype O157:H7 infections associated with consumption of fresh spinach—United States, September 2006. *MMWR* 2006;55:1045–6.
2. Hyttiä-Trees E, Smole SC, Fields PA, Swaminathan B, Ribot EM. Second generation subtyping: a proposed PulseNet protocol for multiple-locus variable-number tandem repeat analysis of Shiga toxin-producing *Escherichia coli* O157 (STEC O157). *Foodborne Pathog Dis* 2006;3:118–31.
3. CDC. Foodborne diseases active surveillance network (FoodNet): population survey atlas of exposures, 2002. Atlanta, GA: US Department of Health and Human Services, CDC; 2004:205. Available at <http://www.cdc.gov/foodnet/surveys/pop/2002/2002atlas.pdf>.
4. Rangel JM, Sparling PH, Crowe C, Griffin PM, Swardlow DL. Epidemiology of *Escherichia coli* O157:H7 outbreaks, United States, 1982–2002. *Emerg Infect Dis* 2005;11:603–9.
5. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. *Emerg Infect Dis* 1999;5:607–25.
6. Dundas S, Todd WT, Stewart AI, et al. The central Scotland *Escherichia coli* O157:H7 outbreak: risk factors for the hemolytic uremic syndrome and death among hospitalized patients. *Clin Infect Dis* 2001;33:923–31.
7. Food and Drug Administration. Grade “A” pasteurized milk ordinance: 2003 revision. Rockville, MD: US Department of Health and Human Services; 2004. Available at <http://www.cfsan.fda.gov/~ear/pmo03toc.html>.
8. Headrick ML, Korangy S, Bean NH, et al. The epidemiology of raw milk-associated foodborne disease outbreaks reported in the United States, 1973 through 1992. *Am J Public Health* 1998;88:1219–21.

Cutaneous Anthrax Associated with Drum Making Using Goat Hides from West Africa — Connecticut, 2007

On August 29, 2007, the Connecticut Department of Public Health was notified by a physician of suspect cutaneous anthrax involving a drum maker and one of his three children. The drum maker had been working with untreated goat hides from Guinea in West Africa. This report summarizes results of the joint epidemiologic and environmental investigation conducted by public health officials, environmental agencies, and law enforcement authorities. The investigation revealed that the drum maker was exposed while working with a contaminated goat hide from Guinea and that his workplace and home were contaminated with anthrax. His child was most likely exposed from cross-contamination of the home. The findings underscore the potential hazard of working with untreated animal hides from areas with epizootic anthrax and the potential for secondary cases from environmental contamination.

On July 22, while sanding a newly assembled goat-hide drum in his backyard shed, the drum maker felt a sting on his right forearm. He then proceeded to an upstairs bathroom in his house to wash his arm. Two days later, a painless 2 cm papular lesion with surrounding edema developed at the site. The man sought medical attention and was prescribed cephalexin and then clindamycin for a presumptive infected spider bite. On August 28, after the skin lesion progressed to an eschar with lymphangitic spread, the man consulted an infectious disease practitioner, who sent a biopsy specimen of the lesion to the Connecticut State Laboratory. Culture was negative, but *Bacillus anthracis* was detected by polymerase chain reaction (PCR). The patient received ciprofloxacin for suspect cutaneous anthrax.

On August 31, the Connecticut Department of Public Health was notified of a second suspect case of cutaneous anthrax in the drum maker's child aged 8 years, who developed a painless, 1 cm ulcer of 3 days' duration over the scapula that did not improve under treatment with amoxicillin-clavulanate. Culture of the lesion was negative, but biopsy specimens tested positive for *B. anthracis* by PCR at the Connecticut State Laboratory and by PCR and immunohistochemistry assay at CDC. The patient was treated with penicillin.

Also on August 31, an epidemiologic investigation was initiated to identify the primary source of exposure and the extent of dissemination of *B. anthracis* spores. The investigation included interviews with the index patient and his family and environmental testing. The family had moved into their

house in December 2006. The index patient made traditional West African drums (known as djembe drums) by soaking animal hides in water, stretching them over the drum body, then scraping and sanding them. At the end of June, a contact in New York City told the index patient that he had some new goat hides from Guinea. Shortly thereafter, the index patient purchased 10 of them, making the transaction on a street corner in New York City. Whether these goat hides were imported legally is unknown. The index patient used three of these hides to make drums during the time he developed anthrax.

All animal hides and drums in progress were stored in a backyard shed. Drum making usually occurred at the shed entrance. The affected child never participated in any drum making and had no known exposure to animal hides. He played indoors on carpeted floors and was prohibited from entering the shed.

Since childhood, the drum maker had been taught by his father, who also made djembe drums, to routinely use latex gloves and wear tight-fitting goggles when drum making. He also was taught to use designated work clothes with long sleeves, which were laundered periodically. In addition, the drum maker wore disposable facemasks to avoid the strong odor associated with animal hides. He always removed his work clothes and shoes before entering the house. One exception to these practices occurred on July 22, when the drum maker wore short sleeves and went indoors to an upstairs bathroom without removing his work attire. Although he kept all drum making equipment in the shed, the drum maker sometimes brought other items from the shed into the house.

On September 5 and 6, targeted environmental sampling was conducted collaboratively by the Federal Bureau of Investigation (FBI), the Environmental Protection Agency, and the Connecticut Department of Environmental Protection. The FBI chose to participate because anthrax is a select bioterrorism agent.* On the basis of initial positive results for *B. anthracis* in several areas of the house, extensive testing was performed a week later to guide decontamination efforts.† Specimens included swabs of all hides and drum heads (Figure) after transport to the state laboratory, seven of which underwent additional wipes and punch biopsies; 16 wipe samples of the shed, including table surfaces and coat hooks 5 feet above the ground; and a swab sample of the car used for transporting the recently purchased hides. House testing included vacuum samples from carpeted areas and composite wipe samples from selected hard surfaces in all regularly used areas.

FIGURE. *Bacillus anthracis*-contaminated drum head made from goat hide from Guinea — Connecticut, 2007



Photo/Connecticut State Department of Public Health Laboratory

The following were culture positive for *B. anthracis*: six (24%) of 25 drum heads, including the recently sanded drum; 15 (42%) of 35 hides, some of which were exposed to ambient dust in the shed; all 16 shed samples, many indicating heavy growth; the car trunk; and 18 (26%) of 72 house specimens, including vacuum samples from the upstairs hallway and both affected patients' bedrooms and swab and wipe samples from the laundry room and upstairs bathroom. DNA from all environmental isolates of *B. anthracis* and the cutaneous biopsy specimens were sent to CDC for genotyping using multiple-locus variable-number tandem repeat analysis (MLVA) (1). All isolates were MLVA genotype 1, as was the *B. anthracis* DNA detected in the child's biopsy specimen.

Federal, state, and local officials completed a comprehensive remediation process that included fumigation of the house with chlorine dioxide. The house and shed were cleared for occupancy on December 22, 2007, after all post-remediation samples had tested negative for anthrax. Because of exposure to aerosolized spores in the shed from drum making, the drum maker was continued on ciprofloxacin for a total of 60 days from the date of last presumed exposure based on recommendations established by CDC for postexposure prophylaxis against inhalation anthrax (2). No other contacts were identified with potential inhalation exposure. With the exception of lymphangitic scarring of the drum maker's arm, the illnesses in both patients resolved without sequelae.

* Information on selected agents and toxins available from the CDC Select Agent Program at <http://www.cdc.gov/od/sap/docs/salist.pdf>.

† Photos and additional information available at <http://www.epa.gov/region1/er/sites/danbury>.

Reported by: J Stratidis, MD, Danbury Hospital; S LeRoy, MPH, Danbury Health Dept; D Barden, MT (HHS), K Kelley, PhD, J Fontana, PhD, K Purviance, MPH, M Cartter, MD, J Hadler, MD, Connecticut Dept of Public Health, K Glynn, DVM, A Hoffmaster, PhD, M Guerra, DVM, S Shadomy, DVM, T Smith, MD, C Marston, National Center for Zoonotic, Vector-Borne, and Enteric Diseases; K Martinez, MSEE, National Institute for Occupational Safety and Health; A Gub, MD, EIS Officer, CDC.

Editorial Note: This report highlights the individual and environmental risks for anthrax from using contaminated goat hides brought from West Africa for drum making. It also describes the first case in the United States of naturally acquired cutaneous anthrax in a personal contact caused by cross-contamination from drum making.

Since 2006, three unrelated cases of anthrax, including the first case described in this report, have been reported from direct occupational association with djembe drums made from untreated animal hides from West Africa. The first two cases were inhalation anthrax. One occurred in a New York City drum maker exposed while making a djembe drum from contaminated hides, and the other occurred in a man in Scotland who died of anthrax septicemia after playing or handling djembe drums newly made from contaminated hides (3,4). The Connecticut cases and the New York City case were caused by *B. anthracis* of MLVA genotype 1, a different genotype than the Ames strain used in the 2001 mail-related anthrax attacks (1). Although MLVA genotypes from West Africa have not been systematically studied, the widespread nature of genotype 1 (1) and its presence in the West African hides implicated in the New York City and Connecticut cases suggest that genotype 1 might be commonly found in West Africa.

The drum making process of stretching, scraping, and sanding animal hides could have released and potentially aerosolized any *B. anthracis* spores present on untreated hides, exposing the drum maker and contaminating the surrounding environment. However, despite direct exposure, the drum maker described in this report did not develop inhalation anthrax. He developed cutaneous anthrax only after wearing short sleeves and experiencing a penetrating injury or insect bite, which could have served to inoculate spores into the skin.

The Connecticut drum maker routinely wore personal protective equipment (PPE). His wearing a facemask might have reduced the amount of inhalation exposure. However, even if he had worked with all recommended precautions (3), such as working in a well-ventilated area using PPE that included a N95 respirator, his risk for cutaneous and inhalation exposure would have been lessened but not necessarily eliminated, and environmental contamination would still have occurred and required remediation.

In this investigation, environmental sampling indicated tracking of spores into the house by the drum maker, either through his work clothes or objects brought from the shed, leading to exposure and subsequent development of cutaneous anthrax in his child. Few cases of anthrax have been reported in children in the United States because most exposures are acquired occupationally. However, household members can be exposed through cross-contamination of living areas. In 1978, dust samples from vacuum cleaners in the houses of textile mill workers tested positive for *B. anthracis*, suggesting that workers carried spores into their homes (5). A case series of cutaneous anthrax in a Pennsylvania mill town indicated that 4% of all cases during a 22-year period occurred in household members of mill workers, including their children (6).

Decontamination of affected areas to minimize the risk for secondary cases of anthrax can be time-consuming and expensive. The cost of environmental cleanups on Capitol Hill in the District of Columbia and in postal facilities affected by the 2001 anthrax attacks ranged from \$464,000 to \$200 million (7).

To eliminate individual and environmental risks for anthrax in drum making, public health agencies have long advised that animal hides of unknown origin or from areas of epizootic anthrax should not be used. However, imported animal hides from West Africa, particularly goat hides, remain in demand because they are prized by drum makers for their acoustical quality. Because anthrax outbreaks in livestock frequently occur in West Africa, hides brought into the United States might contain *B. anthracis* spores. The Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture has the authority to regulate importation of all animal hides, mainly to prevent the introduction of foreign animal diseases of agricultural importance into the United States. However, APHIS does not mandate screening of imported hides for *B. anthracis* (8), and potentially contaminated hides might continue to be imported. In addition, importation can bypass legal channels (3). Currently, the World Health Organization recommends the use of sporicidal treatments to disinfect all contaminated animal hides, including ethylene oxide fumigation, gamma irradiation, preservation in a 5% formaldehyde solution, or chemical treatment with hydrochloric acid or salt in appropriate concentrations and durations (9,10).

Although safer practice in djembe drum making is needed to protect drum makers and others who might be exposed inadvertently, the best preventive measure is to use animal hides known to be free of anthrax spores. The use of PPE is not considered a safe alternative to the use of anthrax-free

hides. Until a process exists for certifying that imported hides from West Africa are free of anthrax, drum makers should follow current disinfection guidelines to reduce the risk for disease (9,10).

Acknowledgments

This report is based, in part, on contributions by the Town of Danbury; Danbury Mayor's Office; Connecticut State Police; Connecticut State Laboratory; Connecticut Dept of Environmental Protection; Federal Bureau of Investigation; US Environmental Protection Agency; and T Gomez, DVM, T Butler, DVM, US Dept of Agriculture.

References

1. Keim P, Price LB, Klevytska AM, et al. Multiple-locus variable-number tandem repeat analysis reveals genetic relationships within *Bacillus anthracis*. *J Bacteriol* 1999;182:298–336.
2. CDC. Update: investigation of bioterrorism-related anthrax and interim guidelines for exposure management and antimicrobial therapy. October 2001. *MMWR* 2001;50:909–19.
3. CDC. Inhalation anthrax associated with dried animal hides—Pennsylvania and New York City, 2006. *MMWR* 2006;55:280–2.
4. NHS Borders. Report on the management of an anthrax incident in the Scottish borders, July 2006 to May 2007. Available at http://news.bbc.co.uk/1/shared/bsp/hi/pdfs/13_12_07_anthrax.pdf.
5. Bales ME, Dannenberg AL, Brachman PS, et al. Epidemiologic response to anthrax outbreaks: field investigations, 1950–2001. *Emerg Infect Dis* 2002;8:1163–74.
6. Gold H. Anthrax: a report of one hundred seventeen cases. *Arch Intern Med* 1955;96:387–96.
7. Canter DA, Gunning D, Rodgers P, et al. Remediation of *Bacillus anthracis* contamination in the U.S. Department of Justice mail facility. *Biosecur Bioterror* 2005;3:119–27.
8. US Department of Agriculture. Animal product manual. 2nd edition. Washington, DC: US Department of Agriculture; 2008. Available at http://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/apm.pdf.
9. Russell AD, Yarnych VS, Koulikovskii A (eds). Guidelines on disinfection in animal husbandry for prevention and control of zoonotic diseases. Geneva, Switzerland: World Health Organization; 1984. Available at http://whqlibdoc.who.int/hq/pre-wholis/who_vph_84.4.pdf.
10. Turnbull PCB. Guidelines for the surveillance and control of anthrax in humans and animals. Geneva, Switzerland: World Health Organization; 1986. Available at http://www.who.int/csr/resources/publications/anthrax/WHO EMC_ZDI_98_6.

prevalence rate of 2%, one of the highest AIDS prevalence rates in the United States (2). Accurate death ascertainment is an important part of HIV/AIDS surveillance. Manual methods can substantially underestimate deaths by missing death certificates that do not mention HIV infection or deaths of residents that occur in other states. CDC and the Council of State and Territorial Epidemiologists (CSTE) recommend performing electronic record linkages to ascertain deaths annually as part of routine HIV/AIDS surveillance activities (3). In 2007, to identify all deaths that occurred during 2000–2005 among persons with AIDS who resided or received their diagnosis in DC, the HIV/AIDS Administration of the DC Department of Health, with assistance from CDC, performed an electronic record linkage. This report summarizes the results of that linkage, which determined that 54% of deaths among persons with AIDS had not been reported previously to the DC HIV/AIDS Reporting System (HARS). The results indicated that electronic record linkage for death ascertainment is necessary to more accurately estimate the prevalence of persons living with HIV/AIDS.

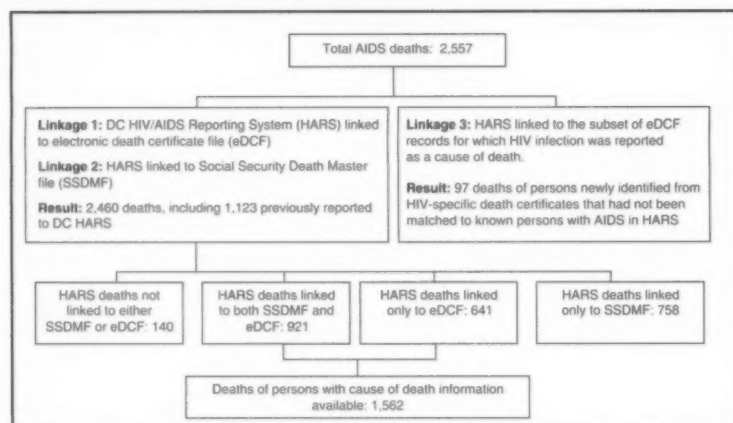
HARS is a confidential, name-based reporting system developed by CDC to manage HIV/AIDS surveillance data. HARS contains vital status information but does not contain information on cause of death. Until November 2006, DC records in HARS were limited to AIDS patients because non-AIDS patients with HIV infection were not reported by name in DC. To perform the electronic record linkage, Link Plus, a free program developed at CDC (4), was used to link AIDS patients in the HARS data file to records in two other computer data files: 1) the DC Vital Records Division's electronic death certificate file (eDCF) and 2) the Social Security Administration's Death Master File (SSDMF). The eDCF includes all deaths that occur in DC, regardless of state of residence, and some deaths of DC residents that occur in Maryland or Virginia. The SSDMF contains information on all deaths reported to the Social Security Administration, regardless of state of residence or where the death occurred. The eDCF has information on causes of death, but the SSDMF does not.

Analysis was limited to deaths that occurred during 2000–2005. The variables used for record linkage were name, date of birth, Social Security number, and sex. Three linkages were performed (Figure). Linkage 1 and linkage 2 matched the HARS file to eDCF and SSDMF records, respectively, to identify deaths among persons listed in HARS with reported AIDS. HARS cases that were successfully linked to eDCF or SSDMF records were categorized by whether the death had been previously reported to HARS.

Electronic Record Linkage to Identify Deaths Among Persons with AIDS — District of Columbia, 2000–2005

An estimated 1 million persons in the United States are living with human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS); approximately 500,000 persons with AIDS have died since 1981 (1,2). In 2005, the District of Columbia (DC) had an estimated adult AIDS

FIGURE. Electronic linkages used to ascertain deaths among persons with AIDS — District of Columbia (DC), 2000–2005



To identify potential new AIDS cases never previously reported to HARS, linkage 3 identified those death certificates within eDCF that indicated HIV infection as a cause of death but had not been linked to HARS via linkage 1. To ensure that these HIV-specific death certificates did not match any previously reported AIDS cases in HARS, a manual search of HARS records was conducted for matches after not finding them by electronic linkage. The remaining nonmatching HIV-specific death certificates were then matched to associated medical records to confirm that decedents met the surveillance case definition for HIV infection (5,6). If medical records were unavailable to corroborate the death certificate information, HIV/AIDS remained unconfirmed for the decedent because the surveillance case definition for HIV infection cannot be met by a death certificate alone (3). Multiple logistic regression was performed, and adjusted odds ratios were calculated to examine factors independently associated with whether a death was previously unreported to HARS before the electronic record linkage.

Linkage 1 and linkage 2 identified 2,460 deaths that occurred during 2000–2005 among persons with AIDS. Of these deaths, 1,337 (54%) had not been reported previously to HARS (Table 1). Among these previously unreported deaths, 320 (24%) were linked only to eDCF, 577 (43%) were linked only to SSDMF, and 440 (33%) were linked to both (Table 1).

Cause of death information was available for 1,562 (63%) of the 2,460 deaths. The underlying cause of death was HIV infection in 1,056 deaths (68%) and other causes (not HIV infection) in 506 deaths (32%) (Table 2). Of those 506 deaths attributed to other underlying causes, 112 (22%) death cer-

tificates mentioned HIV infection as a contributing (but not underlying) cause of death. Leading causes of the 506 deaths included cardiovascular disease (112 [22%]); cancer (98 [19%]); infectious diseases other than HIV infection (72 [14%]); homicide, suicide, or unintentional injury (52 [10%]); and chronic liver disease (30 [6%]). In a multiple logistic regression analysis, previously unreported deaths were associated with an underlying cause of death other than HIV infection (adjusted odds ratio: 7.53) but not with race/ethnicity, transmission category, sex, or age (Table 2).

Electronic linkage 3 identified 216 death certificates in eDCF that mentioned HIV infection as a cause of death but did not electronically match that information with reported AIDS patients in the HARS data file and thus might

represent previously unreported HIV/AIDS cases. Overall, 97 (45%) cases were confirmed as new HIV/AIDS cases based on information from medical records. Of the other potential cases, 69 (32%) were matched manually to HARS patients (and therefore represented previously reported cases missed by linkage 1); 29 (13%) had only death certificate evidence of HIV infection available and thus remained unconfirmed; and 21 (10%) had no mention of HIV on the printed death certificate or medical records and were assumed to be erroneous.

Reported by: T Jolaoso, MHS, J Gauntt, MS, T West-Ojo, MPH, MSPH, HIV/AIDS Admin, District of Columbia Dept of Health; AD Castel, MD, Dept of Epidemiology and Biostatistics, George Washington Univ School of Public Health and Health Svcs, District of Columbia. RM Selik, MD, T Durant, PhD, Div of HIV/AIDS Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention; PJ Peters, MD, E Tai, MD, EIS officers, CDC.

Editorial Note: This report provides the first comparison of electronic record linkage with manual methods of AIDS death ascertainment in the United States. More than half (54%) of deaths among AIDS patients during 2000–2005 in DC had not been reported to HARS and were discovered by electronic record linkage with eDCF and SSDMF. This suggests that electronic record linkage is essential for complete ascertainment of deaths among persons with HIV/AIDS and accurate estimations of HIV/AIDS prevalence.

Death ascertainment in DC has relied on vital records staff members manually reviewing death certificates and sending records that mention HIV to HIV/AIDS surveillance staff members, who then manually matched the death certificates to HARS. Because this manual method is dependent upon death certificates mentioning HIV infection, deaths with non-HIV underlying causes were less likely to be reported as a

TABLE 1. Number and percentage of deaths among persons with AIDS linked electronically to the electronic Death Certificate File (eDCF) and Social Security Death Master File (SSDMF), by reporting status — District of Columbia, 2000–2005

Reporting status	Linked only to eDCF		Linked only to SSDMF		Linked to both eDCF and SSDMF		Known deaths not linked to either eDCF or SSDMF		Total
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
Deaths not previously reported to HARS*	320	(24)	577	(43)	440	(33)	—	—	1,337
Deaths previously reported to HARS	321	(29)	181	(16)	481	(43)	140	(12)	1,123
Total deaths	641	(26)	758	(31)	921	(37)	140	(6)	2,460

* HIV/AIDS Reporting System.

TABLE 2. Number and percentage of deaths not previously reported to HARS,* by selected characteristics — District of Columbia, 2000–2005

Characteristic	Total deaths (n = 1,562†)	Deaths not previously reported to HARS (n = 760)		Adjusted odds ratio	(95% CI‡)
		No.	(%)		
Underlying cause of death¶					
HIV infection	1,056	367	(35)	Referent	—
Causes other than HIV infection	506	393	(78)	7.53	(5.80–9.79)
Year of death					
2000	272	99	(36)	Referent	—
2001	265	92	(35)	0.90	(0.60–1.34)
2002	276	119	(43)	1.37	(0.93–2.02)
2003	283	162	(57)	2.83	(1.93–4.14)
2004	268	165	(62)	3.65	(2.47–5.40)
2005	198	123	(62)	3.38	(2.21–5.17)
Race/Ethnicity					
Black, non-Hispanic	1,425	690	(48)	Referent	—
White, non-Hispanic	108	59	(55)	1.42	(0.88–2.29)
Hispanic/Other**/Not specified	29	11	(38)	0.73	(0.31–1.72)
Transmission category					
Illicit injection-drug use (IDU)	541	285	(53)	Referent	—
Men who have sex with men (MSM)	361	166	(46)	0.82	(0.58–1.15)
MSM and IDU	70	35	(50)	0.92	(0.51–1.64)
High-risk heterosexual contact††	297	132	(44)	0.76	(0.55–1.06)
No risk factor specified/Other§§	293	142	(48)	0.76	(0.54–1.05)
Sex					
Male	1,053	505	(48)	Referent	—
Female	509	255	(50)	1.18	(0.89–1.55)
Age at death (yrs)					
<40	408	182	(45)	Referent	—
40–49	653	309	(47)	0.87	(0.65–1.16)
50–59	385	203	(53)	0.99	(0.71–1.38)
≥60	116	66	(57)	0.78	(0.48–1.28)

* HIV/AIDS Reporting System.

† Limited to the 1,562 deaths with underlying cause of death information from death certificate

‡ Confidence interval.

¶ Based on codes from the *International Classification of Diseases, Tenth Revision*.

** Non-Hispanic Asian, Pacific Islander, American Indian, or Alaska Native.

†† Sexual contact with a person known to be HIV-infected or at high risk for HIV infection (e.g., history of IDU or MSM).

§§ Includes mother-child transmission (n = 13) and transfusion (n = 3).

death in a person with AIDS. Antiretroviral therapy has reduced the percentage of deaths attributed to HIV infection and, therefore, limited the effectiveness of a manual death ascertainment method (7,8). Electronic record linkage has the advantage of being able to find deaths from all causes among persons with HIV/AIDS because electronic linkage can efficiently process large numbers of death records without being limited to death records that mention HIV infection.

Manual review of death certificates for a state generally is limited to persons who died in that state. A more complete ascertainment of deaths requires electronic linkage to a national death data file, such as SSDMF or the National Death Index. In this study, SSDMF and eDCF provided complementary and independent death information, with most deaths linked to only one of these data files. More deaths linked to SSDMF than eDCF, underscoring the importance of linking to a national death data file. The National Death Index, accessible through CDC's National Center for Health Statistics (9), is a national death certificate data file that is not limited to decedents with a Social Security number and includes information on causes of death. The National Death Index could be used to help ascertain deaths among AIDS patients; however, the index is more expensive to researchers because of fees charged to remunerate the state vital records offices that compile the data.

The findings in this report are subject to at least one limitation. The DC findings might not be entirely generalizable to the 50 states because DC's close proximity to other states might increase the frequency of out-of-state deaths that are not reported to the DC Vital Records Division. The conditions that led to underestimation of deaths, however, including the frequency of deaths with causes other than HIV infection and the possibility that HIV-infected persons might die in another state, affect many areas of the United States.

Electronic linkage of the HIV/AIDS case registry with a state's death-certificate registry and with a national death registry such as SSDMF is a more efficient and thorough method to ascertain deaths among persons with HIV/AIDS than manual linkage limited to in-state death certificates that mention HIV. Improved death ascertainment can enable more accurate estimates of HIV/AIDS prevalence and a more effective allocation of HIV prevention and treatment resources. These findings support the CDC/CSTE recommendation to perform electronic record linkage to ascertain deaths annually as part of routine HIV/AIDS surveillance activities (3). Most state HIV/AIDS surveillance programs have followed this recommendation (CSTE, unpublished data, 2007), but a barrier in some areas has been the lack of personnel skilled at computer programming to perform these electronic linkages.

Acknowledgments

This report is based, in part, on contributions by F Johnson-Clarke, PhD, Research and Analysis Div, and J Davidson-Randall, Vital Records Div, State Center for Health Statistics Admin, Dept of Health, District of Columbia.

References

1. Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003. [Abstract] 2005 National HIV Prevention Conference, June 12–15, Atlanta, GA. Available at <http://www.aegis.com/conferences/NHIVPC/2005/T1-B1101.html>.
2. CDC. Cases of HIV infection and AIDS in the United States and dependent areas, 2005: HIV/AIDS surveillance report, 2005. Vol 17. Revised ed. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. Available at <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/2005report/default.htm>.
3. CDC and Council of State and Territorial Epidemiologists. Technical guidance for HIV/AIDS surveillance programs, volume I: policies and procedures. Atlanta GA: US Department of Health and Human Services, CDC; 2005.
4. National Program of Cancer Registries. Link Plus. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. Available at <http://www.cdc.gov/cancer/npcr/tools/registryplus/lp.htm>.
5. CDC. 1993 revised classification system for HIV infection and expanded surveillance case definition for AIDS among adolescents and adults. MMWR 1992;41(No. RR-17):1–19.
6. CDC. Guidelines for national human immunodeficiency virus case surveillance, including monitoring for human immunodeficiency virus infection and acquired immunodeficiency syndrome. MMWR 1999; 48(No. RR-18).
7. Mocroft A, Brettle R, Kirk O, et al. Changes in the cause of death among HIV positive subjects across Europe: results from the EuroSIDA study. AIDS 2002;16:1663–71.
8. Sackoff JE, Hanna DB, Pfeiffer MR, Torian IV. Causes of death among persons with AIDS in the era of highly active antiretroviral therapy: New York City. Ann Intern Med 2006;145:397–406.
9. CDC. National Death Index. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics. Available at <http://www.cdc.gov/nchs/ndi.htm>.

Notice to Readers

World Elder Abuse Awareness Day 2008 — June 15, 2008

By 2030, nearly one in five persons in the United States (approximately 72 million persons) will be aged ≥ 65 years (1). As the number of older adults grows, so does the number of persons who might experience elder abuse or neglect, and associated injuries, social isolation, diminished well being, and increased risks for suicide and premature death.

World Elder Abuse Awareness Day, June 15, 2008, is a campaign coordinated by the International Network for the Prevention of Elder Abuse to raise awareness of elder abuse and neglect worldwide. The theme of this year's campaign is My World... Your World... Our World — Free of Elder Abuse. In support of this campaign, organizations around the world are hosting events to increase recognition of elder abuse and

neglect as public health and human rights issues and raise awareness of the many factors that can lead to or limit abuse. Additional information regarding World Elder Abuse Awareness Day activities is available from the International Network for the Prevention of Elder Abuse at <http://www.inpea.net>.

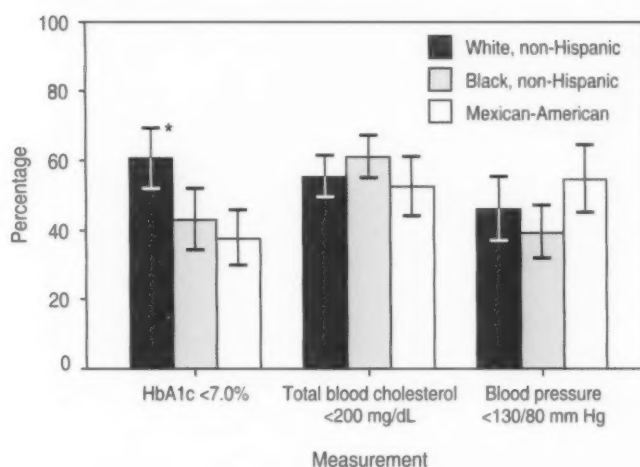
Reference

1. Administration on Aging. Older population by age: 1900 to 2050. Washington, DC: US Department of Health and Human Services; 2005. Available at http://www.aoa.gov/prof/statistics/online_stat_data/agepop2050.asp.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Age-Adjusted Percentage of Adults Aged ≥ 40 Years with Diagnosed Diabetes Who Have Glycosylated Hemoglobin (HbA1c), Total Blood Cholesterol, and Blood Pressure Under Control, by Race/Ethnicity — National Health and Nutrition Examination Survey, United States, 2003–2006



* 95% confidence interval.

During 2003–2006, non-Hispanic white adults aged ≥ 40 years with diabetes were more likely than their non-Hispanic black and Mexican-American counterparts to have HbA1c controlled to the recommended level. No statistically significant differences were observed by race/ethnicity in the percentage of adults aged ≥ 40 years with diabetes whose total blood cholesterol and blood pressure were controlled to recommended levels.

SOURCE: National Health and Nutrition Examination Survey data, 2003–2006. Available at <http://www.cdc.gov/nchs/nhanes.htm>.

TABLE 1. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending June 7, 2008 (23rd Week)*

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2007	2006	2005	2004	2003	
Anthrax	—	—	—	1	1	—	—	—	
Botulism:									
foodborne	—	4	0	32	20	19	16	20	
infant	—	32	2	85	97	85	87	76	
other (wound & unspecified)	1	5	1	27	48	31	30	33	CA (1)
Brucellosis	—	32	2	129	121	120	114	104	
Chancroid	—	23	0	23	33	17	30	54	
Cholera	—	—	0	7	9	8	6	2	
Cyclosporiasis‡	2	31	11	93	137	543	160	75	FL (2)
Diphtheria	—	—	—	—	—	—	—	1	
Domestic arboviral diseases§:									
California serogroup	—	—	1	53	67	80	112	108	
eastern equine	—	—	0	4	8	21	6	14	
Powassan	—	—	0	7	1	1	1	—	
St. Louis	—	—	0	9	10	13	12	41	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§§:									
<i>Ehrlichia chaffeensis</i>	10	57	11	829	578	506	338	321	MN (1), MD (7), TN (1), AL (1)
<i>Ehrlichia ewingii</i>	—	—	—	—	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	1	19	15	870	646	786	537	362	MN (1)
undetermined	—	2	7	367	231	112	59	44	
<i>Haemophilus influenzae</i> ¶¶:									
invasive disease (age <5 yrs):									
serotype b	—	15	0	23	29	9	19	32	
nonserotype b	—	78	3	197	175	135	135	117	
unknown serotype	1	102	4	181	179	217	177	227	NY (1)
Hansen disease§	—	32	2	101	66	87	105	95	
Hantavirus pulmonary syndrome§	—	5	1	32	40	26	24	26	
Hemolytic uremic syndrome, postdiarrheal§	1	42	4	297	288	221	200	178	MO (1)
Hepatitis C viral, acute	7	313	16	856	766	652	720	1,102	MO (1), KS (2), FL (1), TX (2), WA (1)
HIV infection, pediatric (age <13 yrs)¶¶	—	—	4	—	—	380	436	504	
Influenza-associated pediatric mortality¶¶¶	1	81	1	76	43	45	—	N	TX (1)
Listeriosis	7	205	14	818	884	896	753	696	NY (1), PA (1), OH (1), WI (1), WA (1), CA (2)
Measles***	2	78	2	43	55	66	37	56	MD (1), GA (1)
Meningococcal disease, invasive†††:									
A, C, Y, & W-135	1	138	6	322	318	297	—	—	FL (1)
serogroup B	—	75	4	168	193	156	—	—	
other serogroup	—	15	1	34	32	27	—	—	
unknown serogroup	11	326	14	559	651	765	—	—	MD (2), GA (1), FL (2), CO (1), AZ (1), CA (3), AK (1)
Mumps	1	233	35	867	6,584	314	258	231	CA (1)
Novel influenza A virus infections	—	—	—	1	N	N	N	N	
Plague	—	1	0	7	17	8	3	1	
Polio myelitis, paralytic	—	—	—	—	—	1	—	—	
Poliovirus infection, nonparalytic§	—	—	—	—	N	N	N	N	
Psittacosis§	—	2	0	12	21	16	12	12	
Q fever§§§ total:	2	23	4	176	169	136	70	71	
acute	2	20	—	—	—	—	—	—	CA (2)
chronic	—	3	—	—	—	—	—	—	
Rabies, human	—	—	0	1	3	2	7	2	
Rubella¶¶¶	—	5	0	12	11	11	10	7	
Rubella, congenital syndrome	—	—	—	—	1	1	—	1	
SARS-CoV§§§§	—	—	0	—	—	—	—	8	

—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.

** The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).†† Data for *H. influenzae* (all ages, all serotypes) are available in Table II.

§§ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.

¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Eighty cases occurring during the 2007–08 influenza season have been reported.

*** The two measles cases reported for the current week were indigenous.

††† Data for meningococcal disease (all serogroups) are available in Table II.

§§§ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

¶¶¶ No rubella cases were reported for the current week.

§§§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

TABLE I. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending June 7, 2008 (23rd Week)*

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2007	2006	2005	2004	2003	
Smallpox‡	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	2	73	3	132	125	129	132	161	OH (1), MD (1)
Syphilis, congenital (age <1 yr)	—	63	8	381	349	329	353	413	
Tetanus	—	2	1	27	41	27	34	20	
Toxic-shock syndrome (staphylococcal)§	1	27	2	92	101	90	95	133	CA (1)
Trichinellosis	1	3	0	6	15	16	5	6	CA (1)
Tularemia	2	16	4	137	95	154	134	129	NC (1), OK (1)
Typhoid fever	1	153	6	439	353	324	322	356	CA (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	3	0	28	6	2	—	N	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	1	—	0	2	1	3	1	N	PA (1)
Vibriosis (noncholera <i>Vibrio</i> species infections)§	4	63	2	402	N	N	N	N	MN (1), FL (3)
Yellow fever	—	—	—	—	—	—	—	—	

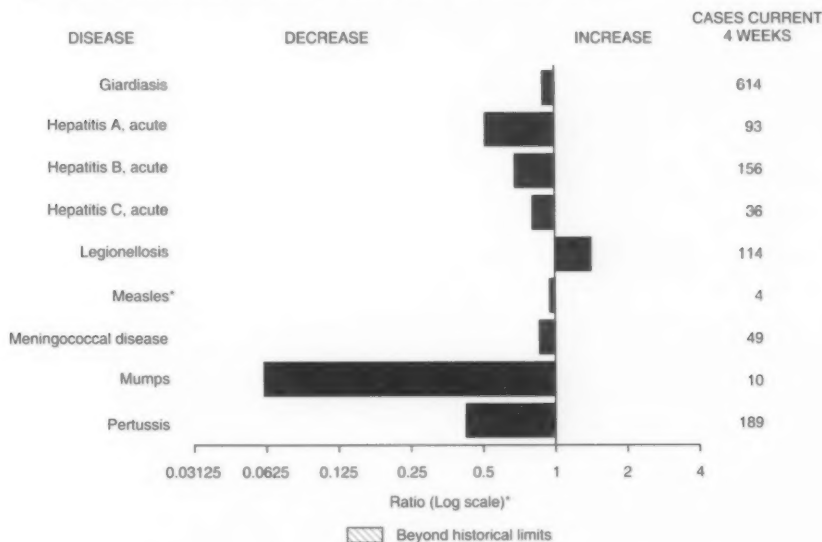
—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals June 7, 2008, with historical data



* Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

Notifiable Disease Data Team and 122 Cities Mortality Data Team

Patsy A. Hall

Deborah A. Adams

Rosaline Dhara

Willie J. Anderson

Carol Worsham

Lence Blanton

Pearl C. Sharp

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Chlamydia ¹					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	12,919	21,469	28,892	454,700	475,977	72	131	341	2,913	3,387	56	92	1,016	1,446	1,413
New England	639	676	1,516	15,118	15,509	—	0	1	1	2	2	6	15	98	112
Connecticut	195	210	1,093	4,151	4,493	N	0	0	N	N	—	0	13	13	42
Maine ⁵	45	49	67	1,091	1,144	N	0	0	N	N	—	1	6	10	11
Massachusetts	364	311	660	7,633	7,050	N	0	0	N	N	—	2	11	31	31
New Hampshire	—	40	73	859	868	—	0	1	1	2	—	1	4	20	15
Rhode Island ⁵	—	56	98	1,249	1,490	—	0	0	—	—	—	0	3	3	4
Vermont ⁵	35	15	36	135	464	N	0	0	N	N	—	1	4	21	9
Mid. Atlantic	2,539	2,741	4,840	62,982	62,456	—	0	0	—	—	9	13	120	194	153
New Jersey	107	404	520	7,571	9,431	N	0	0	N	N	—	1	8	10	10
New York (Upstate)	781	556	2,177	11,961	11,261	N	0	0	N	N	6	4	20	61	45
New York City	1,141	945	3,149	25,148	22,389	N	0	0	N	N	—	2	8	31	31
Pennsylvania	510	799	1,030	18,302	19,375	N	0	0	N	N	3	6	103	92	67
E.N. Central	931	3,460	4,373	73,471	79,067	1	1	3	19	16	10	23	193	350	387
Illinois	1	1,014	1,711	18,989	22,397	N	0	0	N	N	—	2	13	26	35
Indiana	283	393	655	9,068	9,292	N	0	0	N	N	—	2	41	60	19
Michigan	400	766	1,219	20,236	17,033	—	0	2	12	12	—	5	11	81	64
Ohio	95	868	1,530	17,138	21,717	1	0	1	7	4	10	5	60	100	78
Wisconsin	152	377	614	8,040	8,628	N	0	0	N	N	—	8	118	83	191
W.N. Central	304	1,229	1,695	27,350	27,516	—	0	77	—	3	7	16	125	253	189
Iowa	145	162	251	3,757	3,809	N	0	0	N	N	—	4	61	50	34
Kansas	159	163	529	4,014	3,567	N	0	0	N	N	1	1	16	22	25
Minnesota	—	256	372	5,607	5,940	—	0	77	—	—	4	4	34	70	45
Missouri	—	468	569	10,239	10,073	—	0	1	—	3	1	3	14	54	35
Nebraska ⁵	—	92	162	1,817	2,270	N	0	0	N	N	1	3	24	39	10
North Dakota	—	34	65	748	774	N	0	0	N	N	—	0	51	2	1
South Dakota	—	52	81	1,168	1,083	N	0	0	N	N	—	2	16	16	39
S. Atlantic	3,412	3,957	7,609	81,915	91,862	—	0	1	2	2	17	19	65	296	308
Delaware	38	65	144	1,550	1,500	—	0	0	—	—	—	0	4	8	2
District of Columbia	—	115	201	2,685	2,644	—	0	1	—	—	—	0	2	3	1
Florida	1,113	1,298	1,552	30,111	22,462	N	0	0	N	N	8	8	35	140	136
Georgia	8	671	1,338	2,458	18,174	N	0	0	N	N	5	4	14	92	69
Maryland ⁵	383	474	683	9,893	8,912	—	0	1	2	2	1	0	3	7	12
North Carolina	460	206	4,783	8,938	13,879	N	0	0	N	N	2	1	18	11	33
South Carolina ⁵	686	459	3,087	11,455	11,902	N	0	0	N	N	—	1	15	13	25
Virginia ⁵	724	497	1,062	13,497	11,008	N	0	0	N	N	1	1	6	18	26
West Virginia	—	61	96	1,328	1,381	N	0	0	N	N	—	0	5	8	4
E.S. Central	1,238	1,493	2,394	33,823	37,196	—	0	0	—	—	1	4	64	44	59
Alabama ⁵	—	478	605	8,977	11,134	N	0	0	N	N	1	1	14	18	23
Kentucky	237	222	361	4,866	3,477	N	0	0	N	N	—	1	40	8	17
Mississippi	467	300	1,048	7,893	10,086	N	0	0	N	N	—	1	11	3	9
Tennessee ⁵	534	512	716	12,087	12,499	N	0	0	N	N	—	1	18	15	10
W.S. Central	1,666	2,716	4,426	63,605	51,865	—	0	1	1	—	—	6	29	63	76
Arkansas ⁵	228	228	455	6,152	3,951	N	0	0	N	N	—	1	8	10	10
Louisiana	107	380	851	7,909	8,182	—	0	1	1	—	—	0	4	3	25
Oklahoma	114	238	416	5,156	5,477	N	0	0	N	N	—	1	11	17	15
Texas ⁵	1,217	1,800	3,923	44,388	34,255	N	0	0	N	N	—	3	18	33	26
Mountain	226	1,392	1,836	25,196	32,413	45	89	170	1,988	2,117	7	9	567	118	96
Arizona	101	468	679	8,225	10,506	45	87	168	1,946	2,056	2	1	4	17	20
Colorado	3	313	488	4,914	7,766	N	0	0	N	N	2	2	26	31	25
Idaho ⁵	—	55	233	1,466	1,731	N	0	0	N	N	3	2	71	25	5
Montana ⁵	22	50	363	1,307	1,231	N	0	0	N	N	—	1	7	14	5
Nevada ⁵	—	184	408	4,044	4,124	—	1	7	27	22	—	0	6	3	4
New Mexico ⁵	—	148	561	2,636	4,298	—	0	3	12	15	—	2	9	13	28
Utah	100	119	209	2,593	2,223	—	0	7	3	24	—	1	484	9	2
Wyoming ⁵	—	15	34	11	534	—	0	1	—	—	—	0	8	8	7
Pacific	1,964	3,384	4,676	71,240	78,093	26	34	217	902	1,247	3	2	20	30	33
Alaska	43	94	129	2,039	2,177	N	0	0	N	N	—	0	2	1	—
California	1,771	2,791	4,115	62,193	61,231	26	34	217	902	1,247	—	0	0	—	—
Hawaii	—	110	152	2,371	2,520	N	0	0	N	N	—	0	4	1	—
Oregon ⁵	150	192	402	4,524	4,155	N	0	0	N	N	3	2	16	28	33
Washington	—	278	659	113	8,010	N	0	0	N	N	—	0	0	—	—
American Samoa	—	0	22	62	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	5	26	81	370	—	0	0	—	—	—	0	0	—	—
Puerto Rico	148	111	612	3,064	3,456	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	6	21	260	95	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.

¹ Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.⁵ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Giardiasis					Gonorrhea					Haemophilus influenzae, invasive All ages, all serotypes ¹				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	149	308	1,157	5,814	6,455	3,509	6,480	8,913	126,979	151,470	30	46	173	1,273	1,201
New England	4	24	58	438	474	87	99	227	2,153	2,477	1	3	12	72	78
Connecticut	1	6	18	126	122	56	43	199	909	938	—	0	9	14	19
Maine [§]	1	3	10	43	58	2	2	7	43	46	1	0	4	6	7
Massachusetts	—	9	27	157	210	27	47	127	992	1,192	—	2	6	36	41
New Hampshire	—	1	4	34	8	—	2	6	54	73	—	0	2	5	8
Rhode Island [§]	—	1	15	28	25	—	7	13	147	203	—	0	2	5	8
Vermont [§]	2	3	9	50	51	2	1	5	8	25	—	0	3	6	—
Mid. Atlantic	32	62	131	1,130	1,125	540	632	1,028	13,571	15,783	6	9	31	236	240
New Jersey	—	8	15	132	156	38	114	174	2,100	2,709	—	1	7	32	38
New York (Upstate)	19	23	111	421	374	124	134	545	2,665	2,518	4	3	22	70	65
New York City	6	16	29	302	354	234	176	526	4,068	4,750	—	1	6	39	45
Pennsylvania	7	14	29	275	241	144	227	394	4,738	5,806	2	3	9	95	92
E.N. Central	11	52	116	830	1,182	331	1,354	1,735	25,828	31,551	4	7	28	173	186
Illinois	—	13	34	173	306	—	393	589	9,556	8,042	—	2	7	42	57
Indiana	N	0	0	N	N	119	158	311	3,683	3,739	—	1	20	40	21
Michigan	1	10	22	189	267	135	306	657	7,499	6,810	—	0	3	9	15
Ohio	10	16	36	341	288	31	344	685	6,340	10,010	4	2	6	75	52
Wisconsin	—	12	47	127	321	46	121	214	2,350	2,950	—	0	4	7	41
W.N. Central	14	27	620	640	391	66	343	440	6,848	8,780	1	3	24	95	67
Iowa	—	5	23	99	88	24	31	56	604	862	—	0	1	2	1
Kansas	4	3	11	61	61	42	42	130	965	1,015	—	0	4	10	8
Minnesota	—	0	575	191	6	—	62	92	1,288	1,520	—	0	21	17	24
Missouri	1	9	23	170	160	—	176	235	3,308	4,600	—	1	6	44	26
Nebraska [§]	7	4	8	85	45	—	25	51	537	619	1	0	3	16	7
North Dakota	2	0	36	14	6	—	2	7	42	48	—	0	2	6	1
South Dakota	—	1	6	20	25	—	5	10	104	116	—	0	0	—	—
S. Atlantic	23	55	102	938	1,113	1,160	1,476	3,072	28,109	34,858	12	11	29	341	303
Delaware	—	1	6	16	15	12	23	44	505	608	—	0	1	3	5
District of Columbia	—	1	5	18	30	—	47	104	1,032	1,013	—	0	1	4	1
Florida	14	23	47	472	490	364	474	616	10,274	9,548	3	3	10	91	83
Georgia	3	11	28	174	235	2	290	561	1,011	7,151	2	2	9	76	67
Maryland [§]	2	5	18	81	103	103	125	237	2,614	2,716	1	2	5	55	52
North Carolina	N	0	0	N	N	132	133	1,949	3,866	6,528	6	0	9	37	36
South Carolina [§]	1	3	7	49	33	226	189	836	4,173	4,271	—	1	7	26	28
Virginia [§]	3	8	39	109	195	321	134	486	4,324	2,648	—	2	22	41	20
West Virginia	—	0	8	19	12	—	16	38	310	375	—	0	3	8	11
E.S. Central	2	10	23	160	191	479	566	945	12,234	14,009	3	3	8	73	65
Alabama [§]	1	5	11	87	101	—	199	287	3,602	4,755	1	0	2	11	17
Kentucky	N	0	0	N	N	104	81	161	1,895	1,274	—	0	1	1	3
Mississippi	N	0	0	N	N	163	128	401	2,931	3,673	—	0	2	11	4
Tennessee [§]	1	4	16	73	90	212	173	261	3,806	4,307	2	2	6	50	41
W.S. Central	1	6	41	85	133	505	1,019	1,355	21,429	21,411	1	2	29	61	47
Arkansas [§]	—	2	11	42	52	66	78	138	1,913	1,837	—	0	3	3	4
Louisiana	—	1	14	11	39	38	182	384	3,586	4,824	—	0	2	3	3
Oklahoma	1	3	35	32	42	36	93	171	1,896	2,132	1	1	21	51	36
Texas [§]	N	0	0	N	N	365	646	1,102	14,034	12,618	—	0	3	4	4
Mountain	23	31	67	487	582	27	251	333	4,410	5,839	2	4	14	162	145
Arizona	—	3	11	46	81	15	88	130	1,282	2,187	—	2	11	74	58
Colorado	9	11	26	195	187	3	62	91	1,248	1,458	2	1	4	28	33
Idaho [§]	8	3	19	56	46	—	4	19	64	116	—	0	4	8	4
Montana [§]	—	2	8	24	35	3	1	48	43	42	—	0	1	1	—
Nevada [§]	—	3	6	43	58	—	45	129	1,047	984	—	0	1	9	6
New Mexico [§]	—	2	5	25	52	—	29	104	481	683	—	1	4	16	25
Utah	6	7	32	87	106	6	13	36	245	340	—	1	6	26	16
Wyoming [§]	—	1	3	11	17	—	0	5	—	29	—	0	1	—	3
Pacific	39	65	185	1,106	1,264	314	654	810	12,397	16,762	—	2	7	60	70
Alaska	—	2	5	29	26	5	11	24	219	222	—	0	4	10	5
California	27	41	91	770	884	294	560	683	11,346	14,108	—	0	4	11	23
Hawaii	—	1	5	13	36	—	11	22	236	316	—	0	1	8	5
Oregon [§]	3	9	19	183	167	15	25	63	579	487	—	1	4	29	37
Washington	9	9	87	111	151	—	52	142	17	1,629	—	0	3	2	—
American Samoa	—	0	0	—	—	—	0	1	2	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	—	1	—	1	9	23	56	—	0	1	—	—
Puerto Rico	—	3	31	26	126	5	5	23	112	145	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	1	5	46	24	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Hepatitis (viral, acute), by type [†]										Legionellosis				
	A					B									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	21	53	164	1,096	1,196	36	80	250	1,401	1,881	33	50	117	754	704
New England	—	2	7	44	47	—	1	6	20	54	—	3	14	30	37
Connecticut	—	0	3	10	8	—	0	5	8	20	—	1	4	8	4
Maine [‡]	—	0	1	2	—	—	0	2	5	3	—	0	2	1	—
Massachusetts	—	1	5	18	22	—	0	1	3	21	—	0	3	1	18
New Hampshire	—	0	2	3	9	—	0	1	1	4	—	0	2	3	1
Rhode Island [§]	—	0	2	10	6	—	0	3	2	5	—	0	5	13	12
Vermont [§]	—	0	1	1	2	—	0	1	1	1	—	0	2	4	2
Mid. Atlantic	2	8	18	118	189	3	9	18	167	259	14	14	37	176	179
New Jersey	—	1	6	20	61	—	2	7	35	81	—	1	13	14	27
New York (Upstate)	1	1	6	29	33	3	2	7	35	37	7	4	15	55	49
New York City	—	2	7	35	60	—	2	7	28	55	—	2	12	16	39
Pennsylvania	1	1	6	34	35	—	3	7	69	86	7	5	21	91	64
E.N. Central	2	6	13	133	146	1	8	18	147	236	2	12	35	155	161
Illinois	—	2	6	36	56	—	1	6	29	78	—	2	16	18	31
Indiana	—	0	4	6	4	—	0	8	12	17	—	1	7	11	12
Michigan	—	2	7	60	30	—	2	6	54	61	—	3	11	44	45
Ohio	2	1	3	19	31	1	2	6	49	65	2	4	17	78	54
Wisconsin	—	0	2	12	25	—	0	1	3	15	—	0	5	4	19
W.N. Central	2	5	26	146	69	2	2	8	40	52	2	2	10	37	27
Iowa	—	1	7	56	15	—	0	2	7	12	—	0	2	6	3
Kansas	—	0	3	10	2	2	0	2	6	7	—	0	1	1	3
Minnesota	—	0	23	16	36	—	0	5	3	7	—	0	6	4	5
Missouri	2	1	3	26	7	—	1	4	21	17	2	1	3	16	12
Nebraska [§]	—	1	5	36	5	—	0	1	3	6	—	0	2	9	3
North Dakota	—	0	2	—	—	—	0	1	—	—	—	0	2	—	—
South Dakota	—	0	1	2	4	—	0	2	—	3	—	0	1	1	1
S. Atlantic	3	9	22	139	189	13	17	60	377	457	5	8	28	148	147
Delaware	—	0	1	3	2	—	0	3	5	6	—	0	2	4	1
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	2	6	5
Florida	3	3	8	67	61	3	6	12	149	153	1	3	10	60	58
Georgia	—	1	5	17	35	5	3	8	51	60	1	1	3	11	19
Maryland [§]	—	1	4	18	34	—	2	6	30	53	1	2	6	33	26
North Carolina	—	0	9	9	7	4	0	17	48	56	—	0	7	8	17
South Carolina [§]	—	0	4	6	5	—	1	6	28	32	1	0	1	3	7
Virginia [§]	—	1	5	17	43	1	2	16	46	72	1	1	6	20	11
West Virginia	—	0	2	2	2	—	0	30	20	25	—	0	3	3	3
E.S. Central	—	2	9	30	39	2	7	15	134	145	3	2	5	42	38
Alabama [§]	—	0	4	4	8	—	2	6	38	54	—	0	1	5	4
Kentucky	—	0	2	11	5	—	2	7	37	19	—	1	3	19	16
Mississippi	—	0	1	1	6	—	0	3	13	14	—	0	0	—	—
Tennessee [§]	—	1	6	14	20	2	2	8	46	58	3	1	3	18	18
W.S. Central	—	5	51	109	94	9	17	134	290	351	1	2	23	19	35
Arkansas [§]	—	0	1	2	6	—	1	3	16	33	—	0	3	2	6
Louisiana	—	0	3	4	15	—	1	8	14	43	—	0	2	—	1
Oklahoma	—	0	7	4	3	2	2	37	36	19	1	0	3	2	—
Texas [§]	—	5	49	99	70	7	12	110	224	256	—	1	18	15	28
Mountain	2	4	10	94	115	1	3	7	71	106	—	2	6	39	32
Arizona	1	2	8	40	83	—	1	4	18	48	—	1	5	12	8
Colorado	—	0	3	19	15	—	0	3	10	16	—	0	2	3	7
Idaho [§]	1	0	3	14	2	—	0	2	4	4	—	0	1	1	2
Montana [§]	—	0	2	—	2	—	0	1	—	—	—	0	1	2	1
Nevada [§]	—	0	1	3	7	—	1	3	18	26	—	0	2	6	3
New Mexico [§]	—	0	3	14	2	—	0	2	6	7	—	0	1	3	3
Utah	—	0	2	2	2	1	0	2	13	4	—	0	3	12	5
Wyoming [§]	—	0	1	2	2	—	0	1	2	1	—	0	0	—	3
Pacific	10	13	51	283	308	5	9	29	155	221	6	4	18	108	40
Alaska	—	0	1	2	2	1	0	2	7	4	—	0	1	1	—
California	9	11	42	232	277	4	6	19	108	166	3	3	14	85	38
Hawaii	—	0	2	4	3	—	0	2	3	5	—	0	1	4	1
Oregon [§]	—	1	3	18	12	—	1	3	19	27	—	0	2	7	3
Washington	1	1	7	27	14	—	1	9	18	19	3	0	3	11	6
American Samoa	—	0	0	—	—	—	0	0	—	14	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	2	—	0	0	—	—
Puerto Rico	—	0	4	7	39	—	1	5	19	32	—	0	1	—	3
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Data for acute hepatitis C, viral are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive [†] All serogroups				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	83	308	1,774	2,444	5,737	14	25	132	311	447	12	18	52	554	557
New England	2	53	674	149	1,460	4	1	35	8	19	—	1	3	16	25
Connecticut	—	19	280	—	750	3	0	27	3	1	—	0	1	1	4
Maine [‡]	—	6	61	43	26	—	0	2	—	3	—	0	1	3	4
Massachusetts	—	14	279	28	478	—	0	3	2	14	—	0	3	12	13
New Hampshire	—	6	96	63	186	—	0	4	1	1	—	0	0	—	1
Rhode Island [§]	—	0	77	—	—	—	0	8	—	—	—	0	1	—	1
Vermont [§]	2	1	13	15	20	1	0	2	2	—	—	0	1	—	2
Mid. Atlantic	66	152	662	1,360	2,034	1	7	18	69	125	—	3	6	62	60
New Jersey	—	32	220	239	910	—	0	7	—	26	—	0	1	3	9
New York (Upstate)	40	54	453	305	387	1	1	8	13	22	—	1	3	20	16
New York City	—	4	27	4	87	—	4	9	45	66	—	0	2	12	13
Pennsylvania	26	47	293	812	650	—	1	4	11	11	—	1	5	27	22
E.N. Central	—	9	370	31	872	—	2	7	46	69	—	3	9	89	92
Illinois	—	0	16	2	36	—	1	7	20	29	—	1	4	26	32
Indiana	—	0	7	2	10	—	0	2	2	5	—	0	4	14	13
Michigan	—	0	5	8	8	—	0	2	7	8	—	0	2	14	14
Ohio	—	0	4	6	5	—	0	3	14	11	—	1	4	26	20
Wisconsin	—	7	350	13	813	—	0	4	3	16	—	0	2	9	13
W.N. Central	5	3	740	84	108	—	0	8	21	19	—	2	8	53	36
Iowa	—	1	11	7	50	—	0	1	2	2	—	0	3	11	8
Kansas	—	0	1	2	7	—	0	1	3	1	—	0	1	1	2
Minnesota	3	0	731	64	48	—	0	8	6	11	—	0	7	15	9
Missouri	1	0	4	8	1	—	0	4	6	2	—	0	3	15	10
Nebraska [§]	—	0	1	1	2	—	0	2	4	2	—	0	2	9	2
North Dakota	1	0	9	1	—	—	0	2	—	—	—	0	1	1	2
South Dakota	—	0	1	1	—	—	0	0	—	1	—	0	1	1	3
S. Atlantic	5	61	221	695	1,184	4	4	15	79	87	6	3	7	77	76
Delaware	1	12	34	233	243	—	0	1	1	2	—	0	0	—	1
District of Columbia	—	2	9	37	42	—	0	1	—	2	—	0	0	—	—
Florida	1	0	4	10	2	—	1	7	24	18	3	1	5	30	27
Georgia	—	0	3	3	3	3	1	3	18	11	1	0	3	9	9
Maryland [§]	1	30	136	303	683	1	1	5	24	24	2	0	2	8	16
North Carolina	—	0	8	2	8	—	0	2	2	11	—	0	4	3	6
South Carolina [§]	—	0	4	3	9	—	0	1	2	4	—	0	3	11	7
Virginia [§]	2	15	68	101	190	—	1	7	8	15	—	0	3	14	10
West Virginia	—	0	9	3	4	—	0	1	—	—	—	0	1	2	—
E.S. Central	1	0	5	9	15	—	0	3	7	14	—	1	5	33	31
Alabama [§]	—	0	2	3	6	—	0	1	3	2	—	0	1	2	7
Kentucky	—	0	2	1	—	—	0	1	3	3	—	0	2	7	5
Mississippi	—	0	1	—	—	—	0	1	—	1	—	0	2	9	8
Tennessee [§]	1	0	4	5	9	—	0	2	1	8	—	0	3	15	11
W.S. Central	—	1	9	16	29	1	1	60	16	32	—	2	13	51	60
Arkansas [§]	—	0	1	—	—	—	0	1	—	—	—	0	1	5	7
Louisiana	—	0	0	—	2	—	0	1	—	12	—	0	3	12	20
Oklahoma	—	0	1	—	—	1	0	4	2	1	—	0	5	9	11
Texas [§]	—	1	8	16	27	—	1	56	14	19	—	1	7	25	22
Mountain	—	0	3	3	11	1	1	5	11	24	2	1	4	31	42
Arizona	—	0	1	2	—	1	0	1	4	5	1	0	1	4	10
Colorado	—	0	1	1	—	—	0	2	3	10	1	0	2	7	14
Idaho [§]	—	0	2	—	3	—	0	2	—	—	—	0	2	2	3
Montana [§]	—	0	2	—	1	—	0	1	—	2	—	0	1	4	1
Nevada [§]	—	0	2	—	6	—	0	3	4	1	—	0	2	6	3
New Mexico [§]	—	0	2	—	—	—	0	1	—	1	—	0	1	4	2
Utah	—	0	1	—	1	—	0	3	—	5	—	0	2	2	7
Wyoming [§]	—	0	1	—	—	—	0	0	—	—	—	0	1	2	2
Pacific	4	3	8	97	24	3	3	10	54	58	4	4	17	142	135
Alaska	1	0	2	1	2	—	0	2	2	2	1	0	2	3	1
California	3	2	8	92	20	2	2	8	42	40	3	3	17	106	98
Hawaii	N	0	0	N	N	—	0	1	2	2	—	0	2	1	4
Oregon [§]	—	0	1	4	2	—	0	2	4	9	—	1	3	18	18
Washington	—	0	7	—	—	1	0	3	4	5	—	0	5	14	14
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	1	—	0	1	2	5
U.S. Virgin Islands	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Data for meningococcal disease, invasive caused by serogroups A, C, Y, & W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	58	167	843	2,682	4,170	89	91	176	1,666	2,460	20	27	195	197	503
New England	—	26	49	268	613	3	8	20	145	238	—	0	2	—	4
Connecticut	—	1	5	—	29	1	4	17	80	96	—	0	0	—	—
Maine†	—	1	5	16	35	—	1	5	20	39	N	0	0	N	N
Massachusetts	—	18	36	224	490	N	0	0	N	N	—	0	2	—	4
New Hampshire	—	1	5	9	35	—	1	4	14	19	—	0	1	—	—
Rhode Island†	—	0	25	14	4	N	0	0	N	N	—	0	0	—	—
Vermont†	—	0	6	5	20	2	2	6	31	84	—	0	0	—	—
Mid. Atlantic	8	22	43	320	548	13	19	29	366	422	—	1	6	19	29
New Jersey	—	2	9	3	91	—	0	0	—	—	—	0	2	2	9
New York (Upstate)	6	7	23	120	267	13	9	20	167	191	—	0	2	5	1
New York City	—	2	7	29	61	—	0	2	10	24	—	0	2	8	11
Pennsylvania	2	8	23	168	129	—	8	18	189	207	—	0	2	4	8
E.N. Central	7	19	188	580	931	1	3	43	25	33	—	1	3	3	19
Illinois	—	3	8	51	87	N	0	0	N	N	—	0	3	1	14
Indiana	—	0	12	20	15	—	0	1	1	5	—	0	2	1	1
Michigan	3	4	16	68	125	—	1	32	14	16	—	0	1	—	2
Ohio	4	9	176	441	353	1	1	11	10	12	—	0	2	1	2
Wisconsin	—	0	21	—	351	N	0	0	N	N	—	0	1	—	—
W.N. Central	20	12	142	251	303	4	4	13	49	102	2	4	33	44	83
Iowa	—	1	8	29	83	—	0	3	8	11	—	0	4	—	5
Kansas	—	2	5	26	80	—	0	7	—	61	—	0	2	—	6
Minnesota	14	0	131	63	40	1	0	6	19	6	—	0	4	—	1
Missouri	2	2	18	102	40	3	0	3	10	8	2	3	25	44	65
Nebraska†	4	1	12	27	14	—	0	0	—	—	—	0	2	—	4
North Dakota	—	0	5	1	3	—	0	8	10	7	—	0	0	—	—
South Dakota	—	0	2	3	43	—	0	2	2	9	—	0	1	—	2
S. Atlantic	8	13	50	243	433	58	39	61	879	1,017	6	10	110	62	232
Delaware	—	0	2	4	3	—	0	0	—	—	—	0	2	3	9
District of Columbia	—	0	1	2	7	—	0	0	—	—	—	0	2	2	2
Florida	7	3	9	77	103	—	0	25	53	128	—	0	3	3	3
Georgia	—	0	3	4	20	37	6	17	150	103	1	0	6	9	24
Maryland†	—	1	6	28	58	8	9	18	183	172	1	1	6	14	18
North Carolina	—	0	38	59	148	10	9	16	213	220	—	0	96	11	131
South Carolina†	—	1	22	25	42	—	0	0	—	46	—	0	7	4	17
Virginia†	1	2	11	42	45	—	12	27	226	311	4	1	10	15	27
West Virginia	—	0	12	2	7	3	0	11	54	37	—	0	3	1	1
E.S. Central	1	7	31	84	114	1	1	7	64	9	4	4	16	33	93
Alabama†	—	1	6	18	32	—	0	0	—	—	—	1	10	10	25
Kentucky	—	0	4	12	11	—	0	3	14	9	—	0	2	—	2
Mississippi	—	3	29	34	25	1	0	1	2	—	—	0	3	1	5
Tennessee†	1	1	4	20	46	—	0	6	48	—	4	1	10	22	61
W.S. Central	2	18	192	217	390	6	13	40	48	521	7	2	153	29	29
Arkansas†	—	2	17	24	88	6	1	6	32	11	—	0	15	1	1
Louisiana	—	0	2	2	11	—	0	0	—	—	—	0	2	2	1
Oklahoma	2	0	26	10	2	—	0	32	16	45	7	0	132	20	20
Texas†	—	15	175	181	289	—	10	34	—	465	—	1	8	6	7
Mountain	7	19	37	384	538	—	2	8	22	14	1	0	4	5	12
Arizona	—	3	8	82	142	N	0	0	N	N	1	0	1	3	2
Colorado	2	4	13	63	136	—	0	0	—	—	—	0	2	—	—
Idaho†	—	0	4	18	21	—	0	4	—	—	—	0	1	—	2
Montana†	—	0	11	56	30	—	0	3	—	1	—	0	1	1	—
Nevada†	—	0	7	14	21	—	0	2	1	1	—	0	0	—	—
New Mexico†	—	1	7	21	27	—	0	3	14	4	—	0	1	1	1
Utah	5	6	27	126	146	—	0	2	1	4	—	0	0	—	—
Wyoming†	—	0	2	4	15	—	0	4	6	4	—	0	2	—	7
Pacific	5	18	303	335	300	3	4	10	68	104	—	0	1	2	2
Alaska	—	1	29	34	18	—	0	4	12	36	N	0	0	N	N
California	—	8	129	125	169	2	3	8	54	67	—	0	1	1	1
Hawaii	—	0	2	4	10	—	0	0	—	—	N	0	0	N	N
Oregon†	2	2	14	64	41	1	0	3	2	1	—	0	1	1	1
Washington	3	5	169	108	62	—	0	0	—	—	N	0	0	N	N
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	—	1	5	27	19	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Salmonellosis					Shiga toxin-producing <i>E. coli</i> (STEC) [†]					Shigellosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	497	879	2,107	11,834	15,313	40	85	244	1,274	1,229	328	383	1,234	6,612	6,107
New England	1	20	184	501	1,101	—	4	14	59	138	—	3	19	61	128
Connecticut	—	0	155	155	431	—	0	10	10	71	—	0	17	17	44
Maine [‡]	—	2	14	50	48	—	0	4	4	15	—	0	1	2	12
Massachusetts	—	15	60	221	501	—	2	9	24	38	—	2	8	34	61
New Hampshire	—	3	10	27	54	—	0	5	11	9	—	0	1	1	4
Rhode Island [§]	—	1	13	27	39	—	0	3	6	2	—	0	9	6	5
Vermont [‡]	1	1	5	21	28	—	0	3	4	3	—	0	1	1	2
Mid. Atlantic	51	87	212	1,463	2,047	3	8	194	316	139	28	24	78	747	223
New Jersey	—	17	48	214	438	—	1	7	6	38	—	5	14	121	47
New York (Upstate)	25	25	73	405	503	2	3	190	269	44	27	5	36	255	44
New York City	7	23	48	388	464	—	1	5	16	16	1	8	35	325	100
Pennsylvania	19	30	83	456	642	1	2	11	25	41	—	2	65	46	32
E.N. Central	39	92	278	1,400	2,551	2	11	45	112	182	21	73	147	1,150	791
Illinois	—	24	187	302	745	—	1	13	12	21	—	16	37	269	234
Indiana	—	9	34	139	202	—	1	12	10	12	—	10	83	337	25
Michigan	6	17	43	279	335	—	2	10	27	25	—	1	7	28	22
Ohio	32	27	65	499	452	2	2	9	38	46	16	23	104	343	171
Wisconsin	1	17	66	181	817	—	4	27	25	78	5	14	40	173	339
W.N. Central	46	50	95	896	1,026	11	13	38	174	167	9	24	57	383	930
Iowa	—	8	18	137	167	—	3	13	35	32	—	2	7	48	33
Kansas	13	6	18	103	163	1	1	4	10	17	—	0	3	9	13
Minnesota	12	13	39	256	245	2	3	15	43	55	6	4	11	97	107
Missouri	17	14	29	249	280	3	3	12	55	29	—	10	37	129	741
Nebraska [§]	3	5	13	99	84	5	1	6	20	21	—	0	3	—	11
North Dakota	1	0	35	18	14	—	0	20	2	3	3	0	15	31	3
South Dakota	—	2	11	34	73	—	1	5	9	10	—	2	31	69	22
S. Atlantic	195	230	442	3,120	3,549	9	12	40	214	218	58	75	149	1,369	2,017
Delaware	1	3	8	48	45	—	0	2	6	7	—	0	2	5	4
District of Columbia	1	1	4	19	19	—	0	1	5	—	—	0	3	5	7
Florida	93	87	181	1,504	1,423	5	2	18	70	52	22	27	75	410	1,140
Georgia	35	35	86	473	549	—	1	6	13	27	23	27	56	540	723
Maryland [§]	10	14	44	199	266	3	2	5	41	32	1	2	7	23	37
North Carolina	32	20	228	326	513	1	1	24	20	35	6	0	12	46	28
South Carolina [§]	12	17	52	270	287	—	0	3	13	5	3	7	30	275	33
Virginia [§]	11	19	49	228	399	—	2	9	38	59	3	4	14	62	44
West Virginia	—	4	25	53	48	—	0	3	8	1	—	0	61	3	1
E.S. Central	25	54	144	751	942	4	6	26	96	56	17	55	178	874	493
Alabama [§]	8	16	50	223	266	1	1	19	33	10	6	13	43	197	198
Kentucky	—	9	23	122	175	—	1	12	15	15	1	12	35	149	65
Mississippi	11	13	57	164	220	—	0	1	2	2	—	18	112	206	149
Tennessee [§]	6	17	34	242	281	3	2	12	46	29	10	10	32	322	81
W.S. Central	27	97	900	989	1,193	1	5	24	76	87	161	53	756	1,296	762
Arkansas [§]	9	13	50	133	158	—	1	4	17	16	13	2	18	152	41
Louisiana	—	11	44	58	246	—	0	1	—	6	—	6	22	58	217
Oklahoma	18	9	72	175	137	1	0	14	7	12	—	3	32	43	33
Texas [§]	—	51	800	623	652	—	4	11	52	53	148	37	710	1,043	471
Mountain	38	51	83	1,017	983	5	8	42	136	127	11	18	40	262	306
Arizona	19	17	40	303	322	—	1	8	24	41	7	9	30	116	152
Colorado	12	11	44	336	238	2	2	17	38	22	3	2	6	33	43
Idaho [§]	5	3	10	59	44	2	2	16	30	14	—	0	2	5	4
Montana [§]	—	1	10	32	36	—	0	3	13	—	—	0	1	1	13
Nevada [§]	—	5	12	79	103	1	0	3	7	12	—	2	10	83	13
New Mexico [§]	—	5	14	83	102	—	0	3	11	20	—	1	6	12	49
Utah	2	5	17	106	100	—	1	9	10	18	1	1	5	9	8
Wyoming [§]	—	1	5	19	38	—	0	1	3	—	—	0	2	3	24
Pacific	75	113	399	1,697	1,921	5	8	40	91	115	23	28	79	470	457
Alaska	1	1	5	21	39	—	0	1	3	—	—	0	1	—	6
California	56	83	286	1,283	1,449	1	5	34	58	60	22	24	61	401	372
Hawaii	2	5	14	81	102	—	0	5	3	14	—	1	43	17	14
Oregon [§]	—	6	16	122	123	—	1	11	8	14	—	1	6	23	23
Washington	16	12	103	190	208	4	1	13	19	27	1	2	20	29	42
American Samoa	—	0	1	1	—	—	0	0	—	—	—	0	1	1	2
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	5	5	10	—	0	0	—	—	—	0	3	9	7
Puerto Rico	1	12	55	128	324	1	0	1	2	—	—	0	2	3	18
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Streptococcal disease, invasive, group A					Streptococcus pneumoniae, invasive disease, nondrug resistant†				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max		
United States	70	99	258	2,846	2,917	23	35	166	852	933
New England	3	6	31	187	224	—	2	14	39	77
Connecticut	—	0	28	59	49	—	0	11	—	11
Maine‡	2	0	3	15	18	—	0	1	1	1
Massachusetts	—	3	7	83	124	—	1	5	30	50
New Hampshire	—	0	2	16	18	—	0	1	7	8
Rhode Island‡	—	0	6	5	2	—	0	1	—	5
Vermont‡	1	0	2	9	13	—	0	1	1	2
Mid. Atlantic	12	16	42	581	594	3	4	19	98	174
New Jersey	—	3	9	85	116	—	1	6	21	36
New York (Upstate)	6	6	18	207	175	3	2	14	52	56
New York City	—	3	10	97	145	—	1	12	25	82
Pennsylvania	6	5	16	192	158	N	0	0	N	N
E.N. Central	6	17	59	591	646	2	6	23	177	175
Illinois	—	5	15	150	193	—	1	6	39	41
Indiana	—	2	11	78	64	—	0	14	23	7
Michigan	—	3	10	97	127	1	1	5	42	50
Ohio	3	4	15	165	146	—	1	5	32	34
Wisconsin	3	1	38	101	116	1	1	9	41	43
W.N. Central	3	4	39	232	197	1	2	16	71	51
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	6	33	25	1	0	3	14	1
Minnesota	—	0	35	101	90	—	0	13	24	31
Missouri	1	2	10	57	53	—	1	2	21	13
Nebraska‡	1	0	3	21	15	—	0	3	4	5
North Dakota	1	0	5	9	10	—	0	2	3	1
South Dakota	—	0	2	11	4	—	0	1	5	—
S. Atlantic	19	22	51	558	616	5	6	13	130	152
Delaware	—	0	2	6	4	—	0	0	—	—
District of Columbia	—	0	2	11	13	—	0	1	1	2
Florida	6	6	16	136	136	2	1	4	35	32
Georgia	4	4	10	110	138	2	1	5	8	37
Maryland‡	4	4	9	100	110	1	1	5	36	38
North Carolina	1	2	22	74	55	N	0	0	N	N
South Carolina‡	—	1	6	32	64	—	1	4	23	16
Virginia‡	4	3	12	73	80	—	0	6	23	25
West Virginia	—	0	3	16	16	—	0	1	4	2
E.S. Central	1	4	13	91	107	1	2	11	56	51
Alabama‡	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	17	28	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	15	3
Tennessee‡	1	3	13	74	79	1	2	9	41	48
W.S. Central	11	7	84	228	164	8	5	66	134	122
Arkansas‡	—	0	2	4	14	—	0	2	5	8
Louisiana	—	0	1	3	13	—	0	2	1	24
Oklahoma	2	1	19	64	40	2	1	7	44	24
Texas‡	9	5	64	157	97	6	3	58	84	66
Mountain	12	11	22	312	301	3	5	12	137	122
Arizona	7	4	9	115	109	2	2	8	68	61
Colorado	3	3	8	87	79	1	1	4	41	29
Idaho‡	—	0	2	9	6	—	0	1	2	2
Montana‡	N	0	0	N	N	—	0	1	1	—
Nevada‡	—	0	2	6	3	N	0	0	N	N
New Mexico‡	—	2	7	54	51	—	0	3	11	24
Utah	2	1	5	36	49	—	0	4	13	6
Wyoming‡	—	0	2	5	4	—	0	1	1	—
Pacific	3	3	9	66	68	—	0	2	10	9
Alaska	3	0	3	19	12	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	—	2	9	47	56	—	0	2	10	9
Oregon‡	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	3	0	12	22	4	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2007 and 2008 are provisional.

† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).

‡ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	<i>Streptococcus pneumoniae</i> , invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Age <5 years									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	30	47	262	1,342	1,393	8	9	43	220	278	78	229	351	4,671	4,492
New England	—	1	41	24	81	—	0	8	4	12	1	6	14	119	98
Connecticut	—	0	37	—	51	—	0	7	—	4	—	0	6	8	11
Maine [§]	—	0	2	10	7	—	0	1	1	1	—	0	2	2	2
Massachusetts	—	0	0	—	—	—	0	0	—	2	1	4	11	103	57
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	3	4	11
Rhode Island [§]	—	0	3	5	12	—	0	1	1	3	—	0	3	2	15
Vermont [§]	—	0	2	9	11	—	0	1	2	2	—	0	5	—	2
Mid. Atlantic	4	2	8	88	84	—	0	2	15	19	20	33	45	759	687
New Jersey	—	0	0	—	—	—	0	0	—	—	—	4	10	87	81
New York (Upstate)	1	1	4	29	27	—	0	2	4	8	1	3	13	57	54
New York City	—	0	2	2	—	—	0	0	—	—	16	17	30	481	436
Pennsylvania	3	1	8	57	57	—	0	2	11	11	3	5	12	134	116
E.N. Central	6	13	50	384	382	1	2	14	62	82	7	17	31	381	372
Illinois	—	2	15	51	72	—	0	6	11	23	—	7	19	67	193
Indiana	—	3	28	117	81	—	0	11	15	10	—	2	6	63	17
Michigan	—	0	2	6	—	—	0	1	1	1	3	2	17	95	49
Ohio	6	7	15	210	229	1	1	4	35	28	4	4	14	135	86
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	21	27
W.N. Central	1	3	106	101	104	—	0	9	7	17	—	8	15	170	131
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	6	7
Kansas	—	1	5	45	57	—	0	1	2	2	—	0	5	16	8
Minnesota	—	0	105	—	1	—	0	9	—	11	—	1	4	39	30
Missouri	1	1	8	56	38	—	0	1	2	—	—	5	10	106	82
Nebraska [§]	—	0	0	—	2	—	0	0	—	—	—	0	1	3	3
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	2	—	6	—	0	1	3	4	—	0	3	—	1
S. Atlantic	14	21	39	556	594	6	3	10	94	134	25	49	215	980	965
Delaware	—	0	1	2	5	—	0	1	—	1	—	0	4	5	6
District of Columbia	—	0	0	—	4	—	0	0	—	—	—	2	11	47	81
Florida	9	11	26	322	327	5	2	6	61	70	12	18	34	384	323
Georgia	5	7	18	185	221	1	1	6	28	56	—	9	175	98	125
Maryland [§]	—	0	2	3	1	—	0	1	1	—	8	7	14	162	124
North Carolina	N	0	0	N	N	N	0	0	N	N	5	6	18	135	157
South Carolina [§]	—	0	0	—	—	—	0	0	—	—	—	1	5	33	48
Virginia [§]	N	0	0	N	N	N	0	0	N	N	—	5	17	116	96
West Virginia	—	1	7	44	36	—	0	2	4	7	—	0	1	—	5
E.S. Central	4	4	12	147	76	1	1	4	27	16	9	20	31	440	339
Alabama [§]	N	0	0	N	N	N	0	0	N	N	—	8	17	176	132
Kentucky	—	1	3	36	16	—	0	2	8	2	1	1	7	42	32
Mississippi	—	0	0	—	—	—	0	0	—	—	3	2	15	60	53
Tennessee [§]	4	3	12	111	60	1	1	3	19	14	5	7	14	162	122
W.S. Central	1	1	5	25	46	—	0	2	6	7	6	40	61	862	705
Arkansas [§]	1	0	2	8	1	—	0	1	2	2	—	2	10	52	50
Louisiana	—	1	5	17	45	—	0	2	4	5	—	11	22	189	191
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	5	27	29
Texas [§]	—	0	0	—	—	—	0	0	—	—	6	26	48	594	435
Mountain	—	1	6	17	26	—	0	2	4	9	2	8	29	116	182
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	21	24	94
Colorado	—	0	0	—	—	—	0	0	—	—	2	1	7	47	20
Idaho [§]	N	0	0	N	N	N	0	0	N	N	—	0	1	1	1
Montana [§]	—	0	0	—	—	—	0	0	—	—	—	0	3	—	1
Nevada [§]	N	0	0	N	N	N	0	0	N	N	—	2	6	31	39
New Mexico [§]	—	0	1	1	—	—	0	0	—	1	—	1	3	13	21
Utah	—	0	6	16	15	—	0	2	4	7	—	0	2	—	5
Wyoming [§]	—	0	2	—	11	—	0	1	—	1	—	0	1	—	1
Pacific	—	0	0	—	—	—	0	1	1	2	8	40	69	844	1,013
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	—	5
California	N	0	0	N	N	N	0	0	N	N	6	37	59	749	940
Hawaii	—	0	0	—	—	—	0	1	1	2	—	0	2	11	5
Oregon [§]	N	0	0	N	N	N	0	0	N	N	—	0	2	6	8
Washington	N	0	0	N	N	N	0	0	N	N	2	3	13	78	55
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	4
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	10	2	10	72	61
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

† Incidence data for reporting years 2007 and 2008 are provisional.

‡ Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2008, and June 9, 2007 (23rd Week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease [†]									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Neuroinvasive				Nonneuroinvasive [‡]					
		Med	Max			Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	598	648	1,692	15,608	23,707	—	1	143	2	14	—	2	307	6	23
New England	14	22	77	257	1,420	—	0	2	—	—	—	0	2	—	—
Connecticut	—	12	46	—	827	—	0	1	—	—	—	0	1	—	—
Maine [§]	—	1	26	—	188	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	2	—	—	—	0	2	—	—
New Hampshire	—	6	18	110	187	—	0	0	—	—	—	0	0	—	—
Rhode Island [§]	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Vermont [§]	14	6	19	147	218	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	43	57	147	1,263	2,942	—	0	3	—	—	—	0	3	—	—
New Jersey	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
New York (Upstate)	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
New York City	N	0	0	N	N	—	0	3	—	—	—	0	3	—	—
Pennsylvania	43	57	147	1,263	2,942	—	0	1	—	—	—	0	1	—	—
E.N. Central	95	156	359	3,696	6,446	—	0	19	—	1	—	0	12	—	1
Illinois	8	5	62	567	90	—	0	14	—	1	—	0	8	—	—
Indiana	—	0	222	—	—	—	0	4	—	—	—	0	2	—	—
Michigan	18	62	154	1,535	2,578	—	0	5	—	—	—	0	1	—	—
Ohio	58	56	128	1,446	3,091	—	0	4	—	—	—	0	3	—	1
Wisconsin	11	7	80	148	687	—	0	2	—	—	—	0	2	—	—
W.N. Central	17	24	144	707	1,110	—	0	41	—	—	—	0	118	—	9
Iowa	N	0	0	N	N	—	0	4	—	—	—	0	3	—	1
Kansas	—	7	36	243	455	—	0	3	—	—	—	0	7	—	1
Minnesota	—	0	0	—	—	—	0	9	—	—	—	0	12	—	—
Missouri	17	11	47	399	596	—	0	8	—	—	—	0	3	—	—
Nebraska [§]	N	0	0	N	N	—	0	5	—	—	—	0	16	—	4
North Dakota	—	0	140	48	—	—	0	11	—	—	—	0	49	—	—
South Dakota	—	1	5	17	59	—	0	9	—	—	—	0	32	—	3
S. Atlantic	65	99	157	2,529	2,953	—	0	12	—	—	—	0	6	—	—
Delaware	—	1	4	16	21	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	3	16	20	—	0	0	—	—	—	0	0	—	—
Florida	44	29	87	1,024	675	—	0	1	—	—	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	8	—	—	—	0	5	—	—
Maryland [§]	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
North Carolina	N	0	0	N	N	—	0	1	—	—	—	0	2	—	—
South Carolina [§]	10	15	66	462	668	—	0	2	—	—	—	0	1	—	—
Virginia [§]	—	22	82	635	903	—	0	1	—	—	—	0	1	—	—
West Virginia	11	15	66	376	666	—	0	0	—	—	—	0	0	—	—
E.S. Central	9	16	89	716	308	—	0	11	1	6	—	0	14	3	—
Alabama [§]	9	16	89	708	307	—	0	2	—	—	—	0	1	—	—
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	2	8	1	—	0	7	1	5	—	0	12	2	—
Tennessee [§]	N	0	0	N	N	—	0	1	—	1	—	0	2	1	—
W.S. Central	340	172	927	5,249	6,801	—	0	36	—	3	—	0	19	3	3
Arkansas [§]	—	13	42	323	403	—	0	5	—	1	—	0	2	—	—
Louisiana	—	1	7	27	84	—	0	5	—	—	—	0	3	—	—
Oklahoma	N	0	0	N	N	—	0	11	—	—	—	0	8	1	—
Texas [§]	340	159	894	4,899	6,314	—	0	19	—	2	—	0	11	2	3
Mountain	13	41	105	1,167	1,703	—	0	36	1	2	—	0	148	—	7
Arizona	—	0	0	—	—	—	0	8	1	1	—	0	10	—	—
Colorado	5	18	43	536	654	—	0	17	—	—	—	0	67	—	3
Idaho [§]	N	0	0	N	N	—	0	3	—	—	—	0	22	—	2
Montana [§]	—	6	25	164	253	—	0	10	—	—	—	0	30	—	—
Nevada [§]	N	0	0	N	N	—	0	1	—	—	—	0	3	—	1
New Mexico [§]	—	4	22	115	263	—	0	8	—	—	—	0	6	—	—
Utah	8	9	55	347	516	—	0	8	—	1	—	0	9	—	1
Wyoming [§]	—	0	9	5	17	—	0	8	—	—	—	0	34	—	—
Pacific	2	1	4	24	24	—	0	18	—	2	—	0	23	—	3
Alaska	2	1	4	24	24	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	18	—	2	—	0	20	—	2
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon [§]	N	0	0	N	N	—	0	3	—	—	—	0	4	—	1
Washington	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	17	50	165	—	0	0	—	—	—	0	0	—	—
Puerto Rico	2	11	37	235	395	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

[†] Incidence data for reporting years 2007 and 2008 are provisional.[‡] Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.[§] Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.[¶] Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending June 7, 2008 (23rd Week)

All causes, by age (years)								All causes, by age (years)								
Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I [†] Total	Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I [†] Total	
New England	481	365	90	10	7	9	44	S. Atlantic	1,310	788	344	103	29	46	93	
Boston, MA	122	85	23	2	5	7	10	Atlanta, GA	148	67	40	15	5	21	—	
Bridgeport, CT	28	22	6	—	—	—	4	Baltimore, MD	175	98	57	13	6	1	20	
Cambridge, MA	18	15	3	—	—	—	3	Charlotte, NC	103	75	21	3	1	3	11	
Fall River, MA	24	20	3	—	1	—	1	Jacksonville, FL	207	139	52	12	1	3	16	
Hartford, CT	52	35	13	3	—	1	8	Miami, FL	108	67	21	9	5	6	27	
Lowell, MA	29	21	7	1	—	—	4	Norfolk, VA	53	29	15	4	—	5	1	
Lynn, MA	10	8	1	1	—	—	1	Richmond, VA	66	43	15	7	1	—	2	
New Bedford, MA	26	22	4	—	—	—	1	Savannah, GA	65	44	16	5	—	—	4	
New Haven, CT	15	7	7	1	—	—	—	St. Petersburg, FL	70	44	15	5	5	1	2	
Providence, RI	53	43	8	2	—	—	5	Tampa, FL	201	121	57	16	4	3	5	
Somerville, MA	4	3	1	—	—	—	—	Washington, D.C.	99	52	34	9	1	3	5	
Springfield, MA	37	29	7	—	—	1	4	Wilmington, DE	15	9	1	5	—	—	—	
Waterbury, CT	24	23	1	—	—	—	1	E.S. Central	833	540	205	56	19	13	58	
Worcester, MA	39	32	6	—	1	—	2	Birmingham, AL	174	114	43	9	6	2	16	
Mid. Atlantic	2,024	1,354	483	128	27	32	105	Chattanooga, TN	101	80	16	4	—	1	5	
Albany, NY	36	26	7	1	2	—	3	Knoxville, TN	102	70	26	5	—	1	6	
Allentown, PA	31	25	5	1	—	—	—	Lexington, KY	44	35	5	3	1	—	2	
Buffalo, NY	77	41	28	6	—	2	10	Memphis, TN	141	66	47	18	6	4	7	
Camden, NJ	48	31	11	3	2	1	3	Mobile, AL	79	56	12	7	3	1	2	
Elizabeth, NJ	21	18	3	—	—	—	1	Montgomery, AL	59	45	12	1	—	1	7	
Erie, PA	43	28	12	3	—	—	—	Nashville, TN	133	74	44	9	3	3	13	
Jersey City, NJ	26	19	6	1	—	—	2	W.S. Central	1,614	1,038	405	94	35	41	97	
New York City, NY	1,063	722	241	71	15	14	48	Austin, TX	113	73	27	8	2	3	5	
Newark, NJ	40	21	8	5	—	6	4	Baton Rouge, LA	80	54	15	7	3	1	—	
Paterson, NJ	3	3	—	—	—	—	—	Corpus Christi, TX	54	33	16	4	1	—	10	
Philadelphia, PA	276	160	83	23	6	4	12	Dallas, TX	212	113	74	14	4	7	9	
Pittsburgh, PA [‡]	35	24	11	—	—	—	2	El Paso, TX	96	58	24	5	4	5	6	
Reading, PA	30	21	6	3	—	—	3	Fort Worth, TX	129	82	30	7	2	8	6	
Rochester, NY	121	94	24	1	1	1	13	Houston, TX	466	297	130	21	7	11	29	
Schenectady, NY	16	10	3	1	1	1	—	Little Rock, AR	80	55	17	6	2	—	—	
Scranton, PA	28	22	5	1	—	—	1	New Orleans, LA [§]	U	U	U	U	U	U	U	
Syracuse, NY	53	36	14	2	—	1	2	San Antonio, TX	217	156	41	8	7	4	22	
Trenton, NJ	37	23	10	2	—	2	—	Shreveport, LA	39	32	1	4	2	—	3	
Utica, NY	14	10	1	3	—	—	—	Tulsa, OK	128	85	30	10	1	2	7	
Yonkers, NY	26	20	5	1	—	—	1	Mountain	1,169	730	285	93	33	26	69	
E.N. Central	1,990	1,326	471	120	46	27	139	Albuquerque, NM	123	87	21	11	4	—	4	
Akron, OH	50	34	10	2	2	2	2	Boise, ID	74	53	13	—	4	3	7	
Canton, OH	43	35	7	1	—	—	2	Colorado Springs, CO	79	48	29	1	—	1	2	
Chicago, IL	234	129	72	23	7	3	20	Denver, CO	94	56	17	12	1	8	9	
Cincinnati, OH	90	51	23	8	2	6	9	Las Vegas, NV	276	173	68	22	9	4	15	
Cleveland, OH	239	172	49	12	4	2	16	Ogden, UT	37	24	8	3	1	1	2	
Columbus, OH	208	145	41	15	5	2	10	Phoenix, AZ	183	100	53	16	8	5	8	
Dayton, OH	147	106	34	7	—	—	8	Pueblo, CO	38	28	7	2	1	—	6	
Detroit, MI	158	83	51	16	5	3	13	Salt Lake City, UT	108	66	26	11	2	3	7	
Evansville, IN	43	30	9	1	3	—	1	Tucson, AZ	157	95	43	15	3	1	9	
Fort Wayne, IN	85	53	26	4	2	—	4	Pacific	1,664	1,118	364	104	42	36	149	
Gary, IN	21	14	5	1	1	—	1	Berkeley, CA	13	11	2	—	—	—	1	
Grand Rapids, MI	47	35	5	2	4	1	5	Fresno, CA	123	97	18	5	2	1	10	
Indianapolis, IN	179	109	50	13	4	3	9	Glendale, CA	31	23	7	1	—	—	7	
Lansing, MI	46	39	5	2	—	—	2	Honolulu, HI	81	58	19	4	—	—	8	
Milwaukee, WI	105	67	27	7	1	3	15	Long Beach, CA	48	35	6	2	3	2	5	
Peoria, IL	57	39	12	4	2	—	6	Los Angeles, CA	264	157	68	21	11	7	33	
Rockford, IL	42	31	8	1	2	—	3	Pasadena, CA	19	16	2	—	1	—	1	
South Bend, IN	28	22	6	—	—	—	1	Portland, OR	135	92	28	8	5	2	7	
Toledo, OH	108	83	22	—	2	1	6	Sacramento, CA	195	131	46	8	5	5	21	
Youngstown, OH	60	49	9	1	—	1	6	San Diego, CA	159	98	31	16	4	10	11	
W.N. Central	593	383	146	30	21	12	47	San Francisco, CA	109	67	30	9	—	3	8	
Des Moines, IA	7	7	—	—	—	—	7	San Jose, CA	183	136	31	8	4	4	20	
Duluth, MN	29	18	10	1	—	—	2	Santa Cruz, CA	23	18	3	2	—	—	3	
Kansas City, KS	25	15	7	1	2	—	2	Seattle, WA	130	81	35	10	3	1	8	
Kansas City, MO	93	56	26	5	4	2	3	Spokane, WA	64	47	11	4	1	1	5	
Lincoln, NE	58	42	12	1	1	2	4	Tacoma, WA	87	51	27	6	3	—	1	
Minneapolis, MN	74	42	22	6	3	1	10	Total	11,678**	7,642	2,793	738	259	242	801	
Omaha, NE	85	59	17	4	4	1	7									
St. Louis, MO	121	65	35	11	5	4	7									
St. Paul, MN	46	35	9	—	1	1	4									
Wichita, KS	55	44	8	1	1	1	1									

U: Unavailable. —: No reported cases.

* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

‡ Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

§ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

** Total includes unknown ages.

The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format. To receive an electronic copy each week, send an e-mail message to listserv@listserv.cdc.gov. The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's Internet server at <http://www.cdc.gov/mmwr> or from CDC's file transfer protocol server at <ftp://ftp.cdc.gov/pub/publications/mmwr>. Paper copy subscriptions are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

Data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Data are compiled in the National Center for Public Health Informatics, Division of Integrated Surveillance Systems and Services. Address all inquiries about the *MMWR* Series, including material to be considered for publication, to Editor, *MMWR* Series, Mailstop E-90, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333 or to mmwrq@cdc.gov.

All material in the *MMWR* Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. URL addresses listed in *MMWR* were current as of the date of publication.

☆U.S. Government Printing Office: 2008-723-026/41102 Region IV ISSN: 0149-2195



DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)
ATLANTA, GA 30333

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
RETURN SERVICE REQUESTED

93036 0001
REQUEST INFORMATION & LEARNING
PERIODICALS ACQUISITION
PO BOX 1346
ANN ARBOR, MI 48106-1346

FIRST-CLASS MAIL
POSTAGE & FEES PAID
PHS/CDC
Permit No. G-284

